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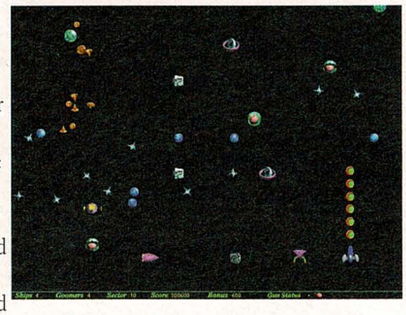

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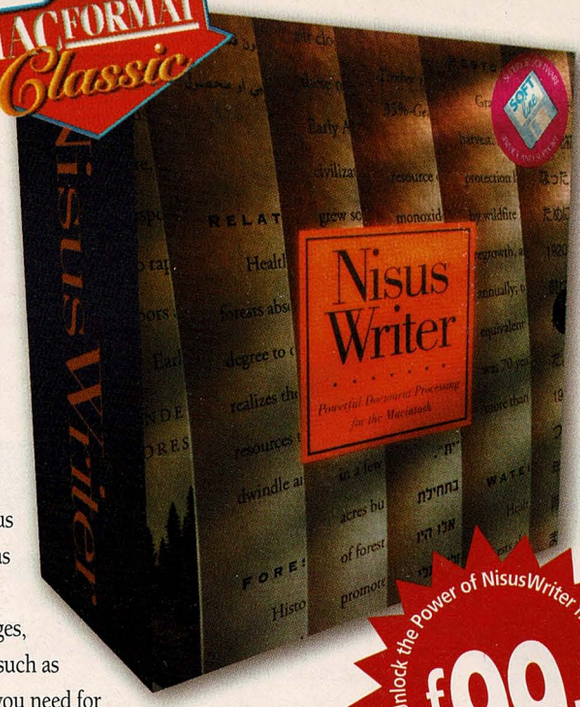

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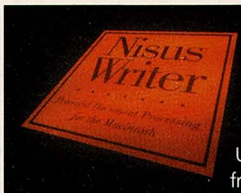

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MACFORMAT

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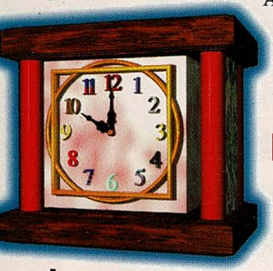
The Finder

HOW TO...

Create 3D Textures and Surfaces 86

A convincing surface texture can add the ultimate touch of realism to your 3D graphics. Here's how to do it – try it for yourself with the demos on the CD-ROM or last month's disks!



Make HyperCard Programs 91

Using *HyperCard* you can make your Mac do almost anything, and now you can even create stand-alone 'programs'. Here's how it's done

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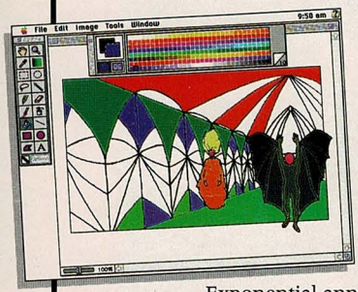
How would you like to double your storage space, save time and money when you're on-line, and fit more onto every floppy disk? The secret is... oh dear, is that the time?



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Whether you're creating comics on your Mac, making multimedia or just writing stories, you're doing narrative! What can it teach you or your kids?

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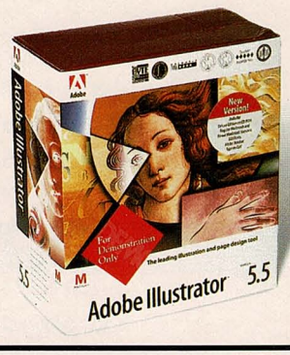

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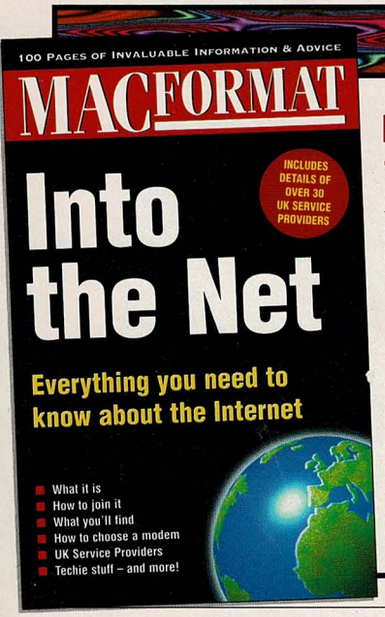
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http://www.futurenet.co.uk/

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XRes – the Alternative Photoshop? 72

Challengers to *Photoshop*, the Mac image-manipulation champion for years, are now coming thick and fast. And *XRes* certainly is fast. But has it got the stamina to go the distance, the strength to deliver the knock-out punch, or is it all boxing trunks and no action?

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Your Mac can help your children get to grips with story-telling, so they can grow up and swear it was the other driver's fault...

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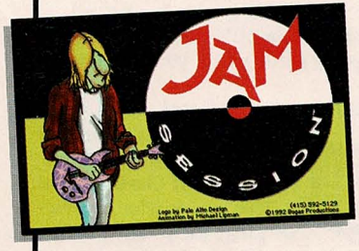

Jam along with some easy-to-use Mac music software that doesn't require you to go out and spend a packet on MIDI music kit...

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Five invaluable utilities in one box, including data back-up and recovery, virus protection and security

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Marvel Comics Screen Posters
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How to do your own comics in ClarisWorks 52

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Bring colour to your world for as little as £300! We test the Apple Colour StyleWriter, Citizen Notebook II, Fargo Primera, HP DeskWriter 310 and HP DeskWriter 560C, explain how different colour printing methods work, and help you decide which one is for you!

COVER DISKS

MACFORMAT is available every month with either a CD-ROM or high density disk

Your CD-ROM 8

Usable (save-disabled) demos of both *FreeHand 5.0* and *Illustrator 5.5*, 80Mb of great 3D software, 200Mb of top shareware, all you need to log on to the MacTel BBS and much more, including everything below...

Your Cover Disk 12

Four fabulous new *Lemmings* levels, the top shareware file-squisher *StuffIt Lite 3.5*, a great comics font, plus handy utilities that enable you to move any window, read any text and more!

Welcome to MACFORMAT

This month in the new-look MACFORMAT we bring you the faces behind the words. Just what you always wanted to see, I bet!

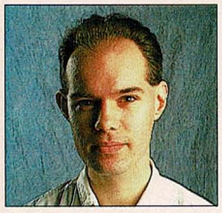
OUR WRITERS

ALEX SUMMERSBY

Former academic, former comic book artist and writer, now Editor of MACFORMAT, Alex still manages to find time to answer *QuarkXPress* queries for most of Future Publishing. Sometimes he even gets the answers right.

DEREK SMITH

MACFORMAT's Technical Writer and cover disk compiler, Derek used to be the computer expert at a school in Norfolk. We're still not quite sure why he left there, but he's changed a bit since then and plays *Marathon* a lot.

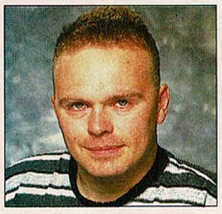


RICHARD HILL

Richard came to MACFORMAT with a background in radio journalism and promptly learned more about Mac products than anybody except maybe Derek, and he's not telling. This month Rich is playing with his new 630.

ANDY STORER

A computing journalist with wide experience of just about every platform from Amiga to ZX Spectrum, Andy settled about the middle of the alphabet and was launch editor of MACFORMAT. He spends much of his time with multimedia.



MARCUS DYSON

Formerly one of Future Publishing's most senior Art Editors, Marcus is a past master at most art and graphics packages on the Mac. He was also Editor of our sister magazine *Amiga Format*, so he can write good too.

ANDY HUTCHINSON

A veteran name to be reckoned with whenever games are mentioned, Hutch has played everything on every platform ever, and brings his experience and distinctive wit to bear on the top new Mac leisure software, God help it.

ROD LAWTON

Another former editor of Future Publishing computer magazines (not that there's any pattern here or anything), Rod now edits computer books for Future and spends far too much time finding clever things to do in *HyperCard*.

ABOUT MACFORMAT

Welcome again to MACFORMAT, Britain's best-selling Mac magazine! Whether you're a veteran or a novice, we'll help you get more out of your Macintosh, whatever you use it for!

Every month, MACFORMAT brings you *tips*, techniques and tutorials covering the range of Mac applications, from graphics, DTP, education, spreadsheets and databases to music, comms and games.

We'll bring you *features* about exciting Mac developments and novel uses, accompanied by cover disk programs whenever possible, so you can discover what your machine can do and try things you haven't tried before.

We'll keep you up-to-date with all the Mac-related *news*, and also keep you informed about the wider issues, the people behind the headlines and the stories behind the stories.

We'll bring you authoritative *reviews* of interesting and affordable products, with clear buying recommendations.

MACFORMAT does not review demos or unfinished programs. We review only the finished products you could buy yourself, to help you decide whether to buy or not.

MACFORMAT's covermounted *disks and CD-ROMs* offer you demos so you can try software before you buy, useful utilities (specially chosen to complement features in the magazine), selected shareware programs, games, readers' contributions and more, every month.

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ABOUT OUR REVIEWS

Every MACFORMAT review is designed to inform you what you'd be getting if you bought the product and help you decide whether it's worth your money. It tells you the essentials, without jargon.

MACFORMAT reviews only finished products, and we rate them on this scale:

- 80+% means excellent.
- 70+% means well worthwhile, though not outstanding.
- 60+% means good, but with a few shortcomings or some limitations.
- 50+% means acceptable but flawed.
- A rating below 50% means think carefully before parting with your money.

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If a product earns a rating of 90% or more, we'll give it a MACFORMAT Classic Award. This means what it says: we judge the product to be a classic, a standard-setter of its type, something really special.

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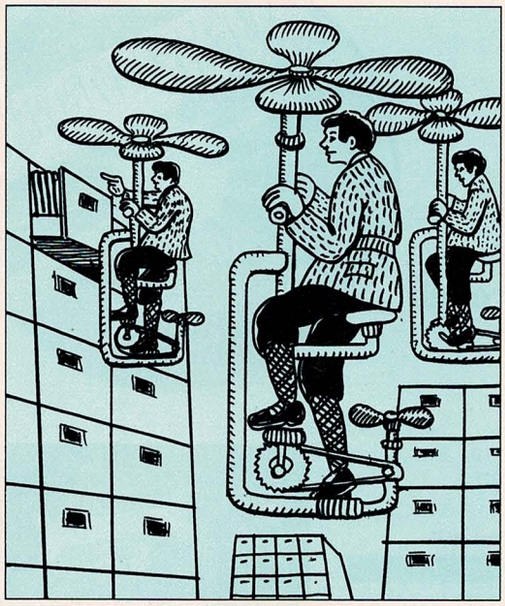

It's that vital client meeting in the morning. Your presentation must be spot on, informative and, above all, on time! Now where are those reports...?

You've been there before. The information you need could be in any files, including ones you have never seen. Anywhere on the network. Trying to find it quickly – and putting it together – can be your greatest nightmare.

That's why Apple™ are introducing their revolutionary **AppleSearch™** software. **AppleSearch** takes the sweat out of information gathering, even across the largest networks, providing you with a true competitive advantage. It condenses all the knowledge and effort of the whole company into a single report. Intelligent network query handling will filter out any irrelevant data using advanced reporting. It even prioritises information to fit your brief.

And it's fast. By indexing all documents, **AppleSearch** conducts accurate, reliable searches that take seconds – not hours.

What's more, you don't need to be a computing genius to use **AppleSearch**. Search queries are made in English, not computer language. And it doesn't demand endless repetitive searches: a search on "car", can also pick up all references to "vehicle" and "automobile".

So next time you need those reports in a hurry...

AppleSearch

Call Freephone 0800 127753

(9am-6pm) for more information

Apple Computer

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Your CD-ROM

Enter the wonderful, demo-filled world of MACFORMAT'S CD-ROM. Derek Smith and Marcus Dyson lead you through the delights on offer this month...

FLOPPY OR CD?

MACFORMAT is available in two editions every month: one with a CD-ROM and one with a high density floppy disk. If you bought the CD edition, your CD includes a folder containing everything on the HD disk, details of which are on page 12.

DIFFERENT DEMOS

A 'rolling' demo is one that you simply watch. An 'interactive' demo is one that you can play or explore yourself. A 'save disabled' demo is one that you can play or explore yourself. A 'save disabled' demo is one interactive demo – or sometimes the whole program – in which you can do most or all things, except **Save** (and possibly print or export).

Complementing our action-packed comics feature this month we bring you three comic demos, including a fully-interactive comics database. We also bring you save-disabled demos of both *Illustrator* and *FreeHand* (turn to page 66 to see the head-to-head review of these industry-standard design packages). But that's not all. There's also an expanded *Marathon* demo, tonnes of shareware, and a couple of peeks at the wonderful *PAWS* program. Here's a quick look at the folders you'll find on the CD-ROM:

- **Highlights:** aliases of the best bits of the CD-ROM. This is always a good place to get started.
- **Floppy:** all the software from the floppy disks, plus some expanded versions and a few extras.
- **Demos:** interactive and rolling demos of software featured in this and past issues of MACFORMAT.
- **Shareware City:** all the best software from the Internet that's been released in the last month.
- **Shareware in MACFORMAT:** contains all the software reviewed in 'Shareware and PD', which starts on page 109.
- **MacTel:** everything that you need to get on-line with one of Britain's best comms services.
- **Readers' Corner:** another fine crop of software sent in by you, the readers.

To find out how to use *FreeHand* and *Illustrator*, have a look at the full instructions starting on page 10. But here's what's on the rest of the CD...

Comic Collection

COMICS

Requires: LCII or better and 2.5Mb free RAM

We have three comic demos this month to tie in with our cover feature. There are rolling demos of *Maus* and *Comic Book Confidential*, which both come from the prolific Voyager stable. And there's a cut-down, but fully-interactive, demo of *ComicBase*, a comics database. Turn to the multimedia section, which starts on page 56, for full reviews of these programs.

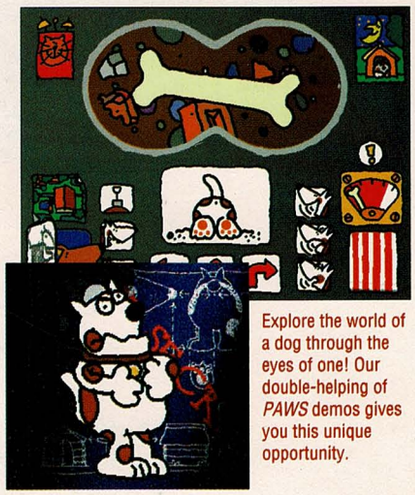
Sources of Faith

MULTIMEDIA

Requires: LCII or better, 4Mb of free RAM and System 7.0 or later.

This unusual program focuses on seven of the world's major religions: Animism, Buddhism, Christianity, Hinduism, Islam, Judaism and Taoism. Turn to page 63 to see a review.

The demo is fully interactive and gives you the complete section on the Islamic faith. Operation is simple: once you've loaded the demo, you simply click and hold down your mouse button on the third icon from the right, and a menu pops up. Select one of the subjects, put away any preconceptions, and start learning! You can contact KimTec on 01202 888873 for more details.



Explore the world of a dog through the eyes of one! Our double-helping of *PAWS* demos gives you this unique opportunity.

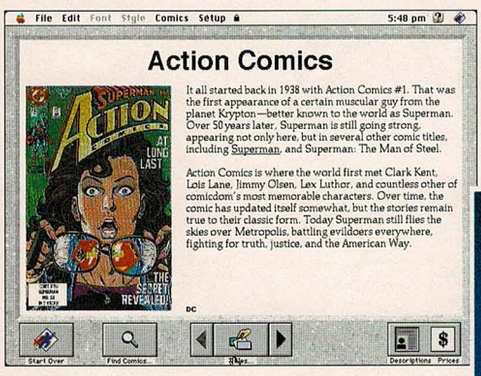
PAWS

MULTIMEDIA

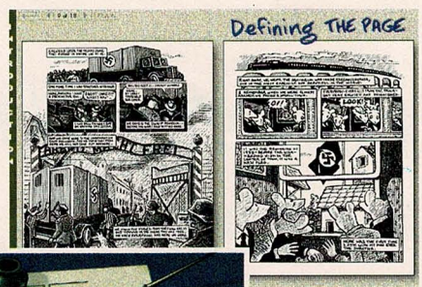
Requires: any colour Mac and 2.8Mb of free RAM

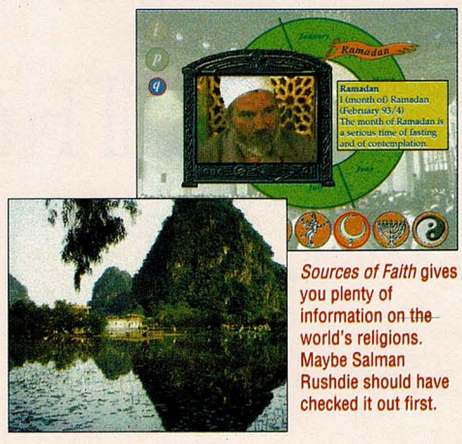
It's not often that I get overexcited by a rolling demo, but this month we have two *PAWS* movies and they are both absolutely tremendous. They show off perfectly the humour and wit of this delightful dog sim, which enables you to see what a (cartoon) dog's life is really like. *PAWS* won a MACFORMAT Classic Award in issue 22, and the design team are interviewed this issue (see page 29).

Both demos are really easy to use: simply double-click on the appropriate

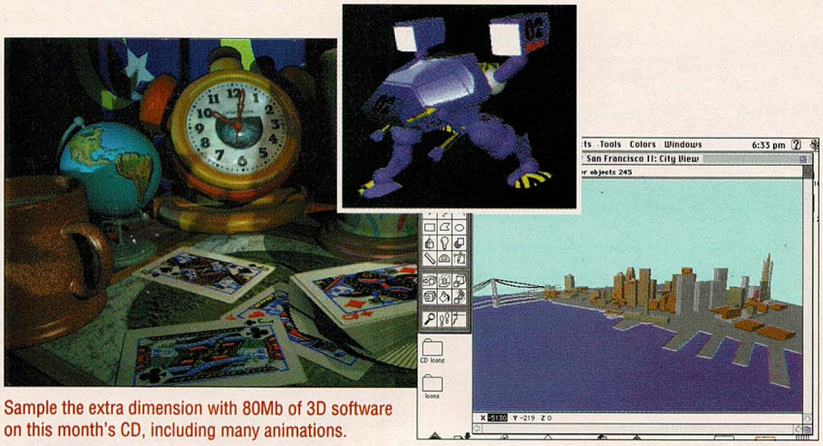

File Edit Font Style Comics Setup 5:48 pm
Action Comics
It all started back in 1938 with Action Comics #1. That was the first appearance of a certain muscular guy from the planet Krypton—better known to the world as Superman. Over 50 years later, Superman is still going strong, appearing not only here, but in several other comic titles, including Superman, and Superman: The Man of Steel.
Action Comics is where the world first met Clark Kent, Lois Lane, Jimmy Olsen, Lex Luthor, and countless other of comicdom's most memorable characters. Over time, the comic has updated itself somewhat, but the stories remain true to their classic form. Today Superman still flies the skies over Metropolis, battling evildoers everywhere, fighting for truth, justice, and the American Way.
Start Over
Find Comics...
Descriptions
Prices

Explore the comic side of your Mac with these fact-and-fiction-packed demos.

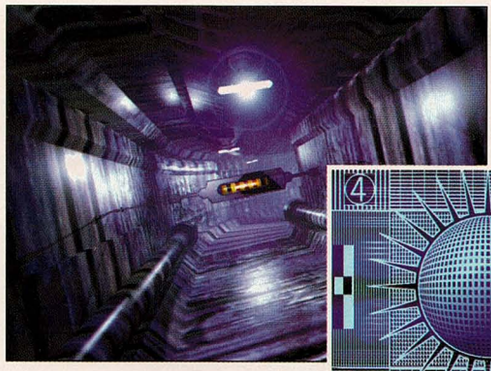


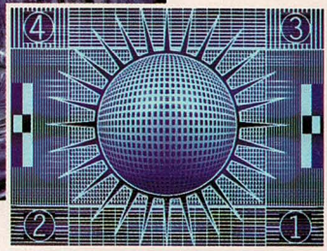


Sources of Faith gives you plenty of information on the world's religions. Maybe Salman Rushdie should have checked it out first.



Sample the extra dimension with 80Mb of 3D software on this month's CD, including many animations.





There's loads of great software to be discovered on the CD, and much of it comes from you!

icon, sit back, and enjoy. For more details contact Softline on 0181 401 1234.

3D Spectacular

3D SOFTWARE

Requires: see individual Read Me files

After last month's collection, we bring you yet more demos of 3D software. And perhaps more importantly, we've got some examples of what can be achieved with these demos. In particular, there are loads of images created with the 3D rendering program *Infini-D*, which is being featured heavily in our 3D series that began in MACFORMAT 21 and continues this month on page 86. There are also some QuickTime animations created with the same program; these demonstrate the kind of incredibly professional results that you can aspire to.

Readers' Corner

YOUR PROGRAMS

Requires: see individual Read Me files

Some of the contributions to Readers' Corner are stunning... *CYBER>TV* animation certainly is, as is the music video from Modified. But if you prefer a gentler pace, there are gamebusting hints and tips from Adam Shutes, Daniel Warrender and Allan Crossman (Allan sent in some very impressive icons as well).

Music contributions this month come from Tony de Laender, Martin MacDonald and Dave Andrews. There are also plenty of great utilities, and as always, loads of *HyperCard* stuff.

For future CDs, I'd like to set up a new section for readers' art. If you produce art of any kind on your Mac, then send your pictures in and we'll include them in the MACFORMAT art gallery. You'll be massively famous (sort of), and get loads of offers for commissions (maybe). Please include step-by-step screen grabs of intermediate stages, and send any contributions to: Readers' Gallery, MACFORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW.

QUITTING DEMOS

Some of the rolling demos require you to press **[command] Q** to quit them.

Continued on next page

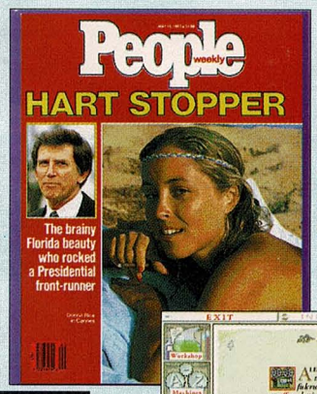
TOO MANY TO MENTION

With over 600Mb of gorgeous software on the CD, it would take the rest of the magazine to tell you about everything, so here's a little taste of the best of the rest.

Be a pinball wizard with the fully-playable demo of *Crystal Caliburn*. Turn to page 118 to see a review of *Caliburn's* sequel, *Loony Labyrinth*.

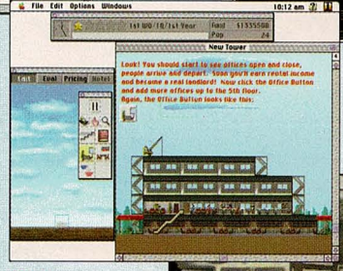
Got a modem? You can use our MacTel software to log on to one of the UK's most popular bulletin boards. Instructions included.

FirstClass™ User Reference
SoftArc Inc. Global Area Communications
This document is for use with the MacTel Iconic Bulletin Board Systems 0602-455444 and 081-543-8017.

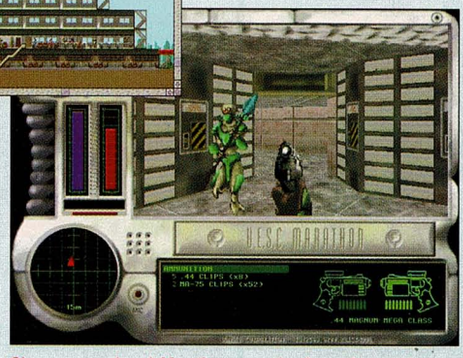


Celebrate *People* magazine's 20th birthday with this demo from Voyager, and read the review on page 62.

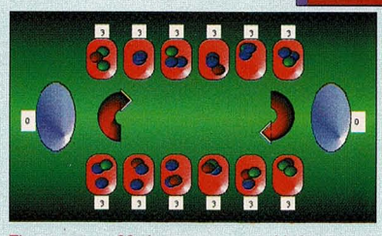
SODAcolor is a shareware program that enables you to create multimedia presentations.



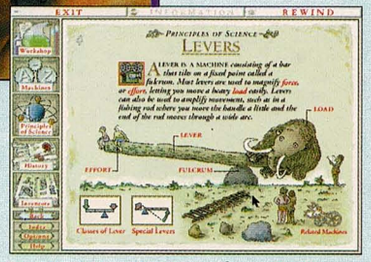
Build your own tower block with *SimTower*. But don't get too carried away – remember Canary Wharf!



Okay, so you played *Marathon* a couple of months ago, but check out this month's demo because there's lots of extras. Turn to page 116 for a review of what we reckon is quite possibly the best game ever made for the Mac.

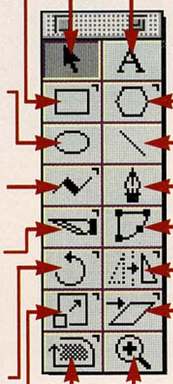


There are over 30 shareware games this issue, including a very addictive one called *Stones*.



The Way Things Work is a truly superb rolling demo that beautifully shows off the program's humour and intelligence. Designed for children, adults will love it. See the review on page 60.

FREEHAND TOOLBOX



Selection tool: click on an object in your drawing to make it 'active'.

Rectangle tool: for squares hold **[shift]**; double-click to set radius of round corners.

Ellipse Tool: creates ellipses. For circles, use the **[shift]** key.

Freehand tool: create any shape; double-click to bring up an option palette.

Knife tool: this tool enables you to cut all active paths that it crosses.

Rotate tool: drag on your drawing to rotate selected objects.

Resize tool: resize 'active' shapes by clicking and dragging on their handles.

Tracing tool: create an outline trace of selected objects in an area.

Text tool: this enables you to type text directly onto your drawing.

Polygon Tool: draws the defined polygon; double-click to re-define its shape.

Line tool: this tool is used to draw simple straight lines.

Pen tool: click-move-click for polygons. Click and drag to create curves.

Bezigon tool: does same as Pen tool, but you use **[option]** key for curves.

Reflect tool: selected elements reflect around an axis made where you click.

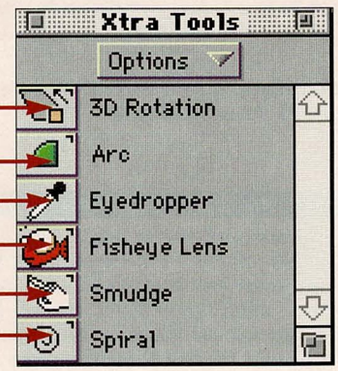
Sheer tool: deform a selection by sheering and applying a lean angle to it.

Magnifying tool: click to zoom in, **[option]** click to zoom out.

FREEHAND MASTERCLASS

This month, to complement our head-to-head review of *Illustrator 5.5* vs *FreeHand 5.0*, we have save-disabled demos of both for you to try out. These are the top graphics and illustrations packages on the market. To get you started with *FreeHand 5.0*, Marcus Dyson takes you through the basics...

FREEHAND XTRA TOOLS MENU



3D rotation: applies a pseudo-3D perspective type effect on a selected object or group of objects.

Arc: enables you to draw a curve line (a section of an ellipse) between two points.

Eye-dropper: enables colours to be grabbed from a bitmap picture in a document, using the **File/Place** menu option.

Fisheye lens: applies a pseudo-optical bulging distortion to selected objects.

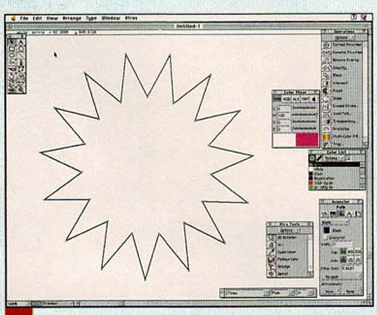
Smudge: performs an auto-blend on any object it is applied to; only really effective on a white background.

Spiral: interactively creates a spiral shape. Double-clicking enables further control of number of curls and direction.

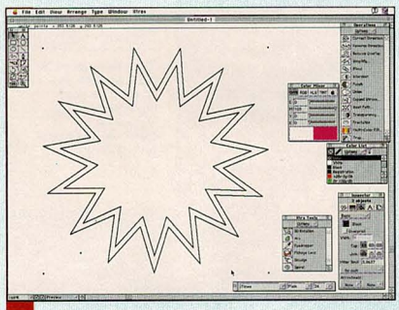
CREATING A SIMPLE LOGO IN FREEHAND

GET ACTIVE

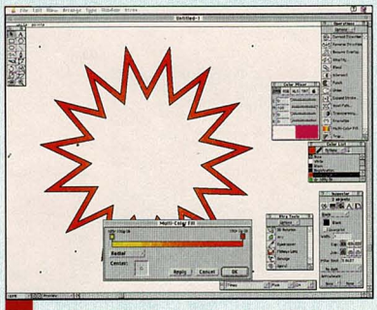
In *FreeHand* you have to make an object 'active' before you can apply any effects to it. This is done with the selection tool.



1 Use the polygon tool to create a star. If it doesn't draw a star, double click and edit the values. (And if that doesn't work, try the time-honoured technique of starting again...)



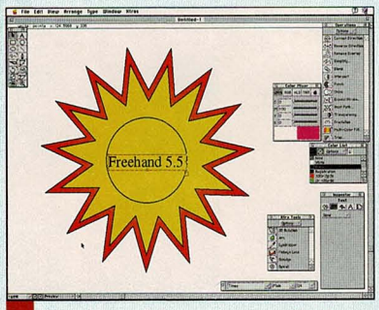
2 Use **[command] [=]** to duplicate the star. The old star will not be active, the new one will. Click on the inset path tool in the operations palette. Edit the value to about 8. You now have two nested paths.



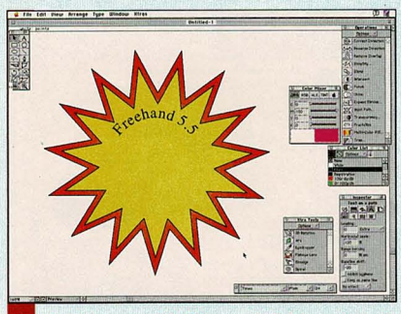
3 Press **[command] A**.. Select **Arrange/Join** menu item to join the paths. Select the Multi-colour-fill tool from the operations palette; drag & drop some colours on it. Select radial fill. Click **OK**.

TRANSFORMATIONS

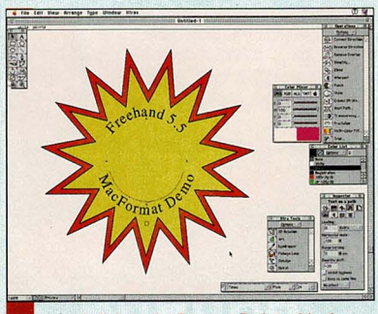
The transform palette gives you exact numerical control over operations like rotate and sheer. It's handy for getting a read-out of the values of one object and duplicating them onto another one.



4 Now draw a circle over the star, using the ellipse tool while holding down the **[shift]** key. Then use **[command] [=]** to duplicate this circle. Use the text tool to write anything you like.



5 Hold down the **[shift]** key and click to make both the text and the circle active. When you've done that, select **Bind to Path** from the **Type** menu. Sorted? Then click on the other circle...

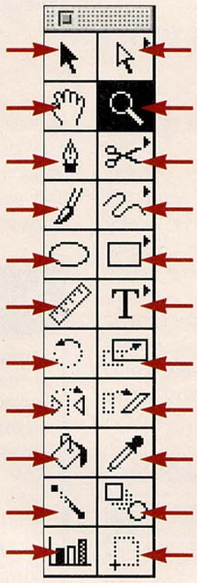


6 ...and click on the Reverse Path tool in the operations palette. Use the type tool to add text, and repeat **5**. Use the text tool in the inspector palette to give your type a negative baseline shift.

ILLUSTRATOR MASTERCLASS

So now you've got to grips with *FreeHand 5.0*, here's *Illustrator 5.5* for you to have a dabble with. Like the *FreeHand 5.0* demo, the *Illustrator 5.5* demo is also fully usable, but save-disabled. Marcus Dyson takes us through *Illustrator 5.5's* toolbox and explains what *Illustrator* is all about...

ILLUSTRATOR TOOLBOX



Select entire paths or objects.

Hand tool: scroll around your document.

Path tool: click, move, click for polygons. Click and drag to create curves.

Brush tool: create an editable width path. Double-click for calligraphy pen.

Ellipse Tool: creates ellipses. For circles use **[shift]** key.

Ruler: click and drag to show the distance dragged.

Rotate tool: rotates selected item; double-click to enter degree of rotation.

Reflect tool: selected elements reflect around an axis created where you click.

Fill tool: fill objects with colour. Double-click to bring up control panel.

Gradient fill: enables you to adjust the angle and sharpness of graduated fills.

Graphing tool: creates graphs from a table of numbers entered into it.

Select individual points or objects.

Magnify Tool: click to zoom in, **[option]** click to zoom out.

Scissor tool: click on the point of a path to make a cut.

Freehand line tool: create a freehand shape.

Rectangle tool: creates rectangles. For squares use **[shift]** key.

Text tool: enter text normally or enter text inside a path.

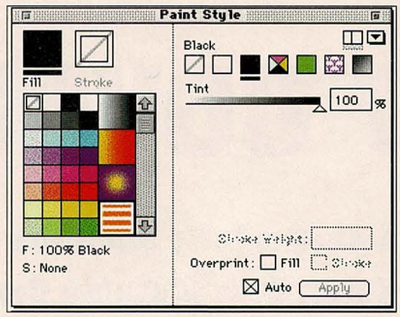
Resize tool: use to resize single and multiple objects.

Sheer tool: use to sheer a selected object.

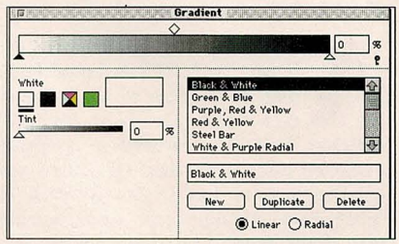
Eye-dropper tool: pick up colours from the drawing to use elsewhere.

Blend tool: creates a set of intermediate shapes between two selected items.

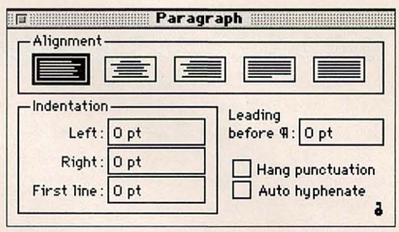
Page tool: this adjusts the page grid.



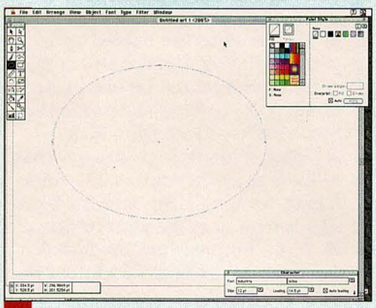
The Paint Style Window: this window is the control for almost all colour application operations in *Illustrator*. Colours are created and stored here; the border and fill colour selections are made here; gradient and tints are selected here. A colour can only be applied to a part of an object if the correct box (fill or stroke) is selected.



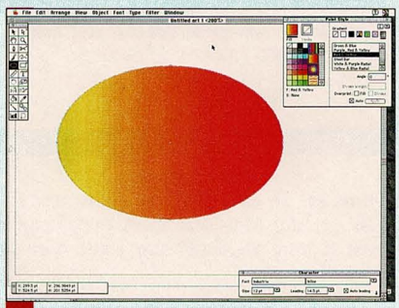
Gradient palette: here multi-colour gradients can be designed, edited and stored for use later. Edit (or create) a gradient, and then click below the coloured bar to produce an edit point, which defines a colour for that point. Colours can be selected from a list, or produced using CMYK sliders.



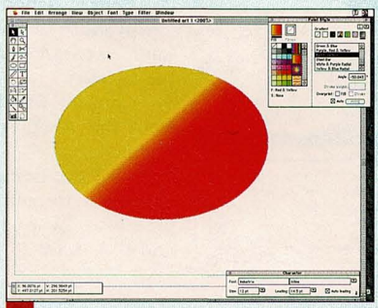
The Paragraph window: this window enables easy formatting of text paragraphs. The leading before the paragraph, justification and amount of indent can all be set from here.



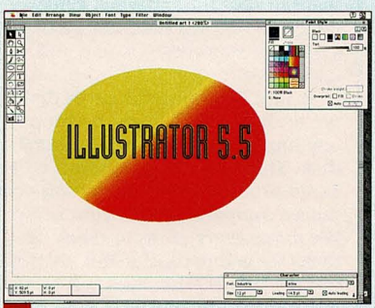
1 Select the ellipse tool, and drag out a shape, until you've got something looking like the one shown above. (It doesn't have to be exact, so don't worry if it's a bit out.)



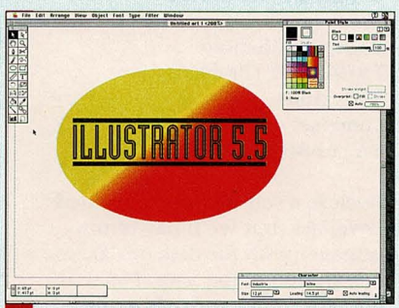
2 Open the Paint Styles window, if it isn't already open, and select the yellow-to-red graduated tint. Make sure the fill box is selected at the top left. Your shape should fill with a tint as shown.



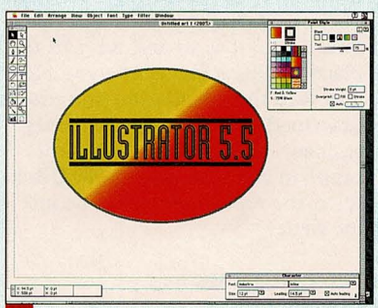
3 Select the gradient tool from the main tool box. Play with it a few times, clicking and dragging in your shape, until you achieve an effect that you like.



4 Now select the type tool, and write the words you wish to display. Use the select tool to click on your text's baseline, and drag it to wherever you want it to go.



5 To draw the lines above and below the name you can use the rectangle tool to draw two boxes, one above your text, and another one just below it. Or you could use the straight line tool.



6 To make your background ellipse active use the select tool. Click on the stroke tool in the paint styles palette, and a box marked 'stroke weight' will appear. Just try different values.

BORDER LINE

If you want to draw a thick black line in *Illustrator* you can use the box tool instead of the line tool (see step 5 in the walkthrough). If you are drawing the line within a box that contains a colour you will initially draw with the same colour that is currently active. Use the paint styles window to change this to a solid black fill.

Continued on next page

Your cover disk

MACFORMAT
Disk 23 April 95
Oh no! More Lemmings
PLUS StuffIt Lite 3.5 ■ StuffIt Expander 3.52 ■ DragAnyWindow ■ Startup Player 1.0.3 ■ ComicsCartoon TrueType font AND Bail, Broadcast Calendar, FontScan, eXpress, Last Ditch 4
OVER 2MB OF GREAT SOFTWARE!

Get ready for a particularly addictive disk this month. There's a four-level, fully playable demo of *Lemmings*, a brilliant hard-disk-saving compression program, and lots more...

EXTRA SOFTWARE
If you have the CD-ROM edition of this issue, the floppy folder on the CD contains all this software, plus several extras and expanded versions of the same software.

Another month, another brilliant floppy disk. If you bought the very first issue of MACFORMAT two years ago, you may remember that we featured a *Lemmings* demo on that cover disk. Of course, we used to have a double density disk in those days. Things have come a long way since then, but those pesky, suicidal *Lemmings* are just as addictive.

StuffIt Lite 3.5

COMPRESSION

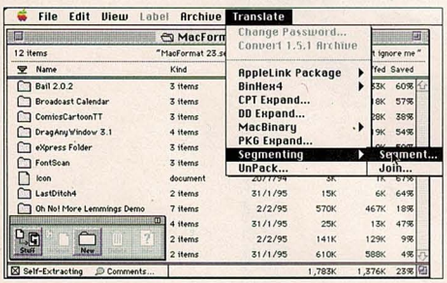
Requires: any Mac with System 6.0.4 or later.

To fit more than 1.4Mb of software on the floppy disk each month, we use *StuffIt* (albeit the Deluxe version) to halve the size of files. It does this by creating an archive – this is explained in detail on page 100. The important thing to note is that it's dead easy to use. To compress a file, all you need to do is:

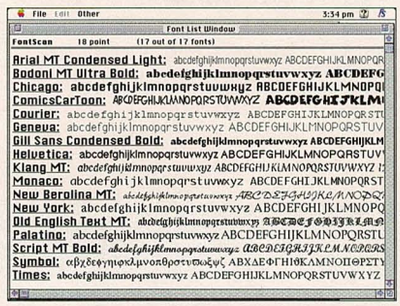
1. Open *StuffIt Lite* and select **New** from the **File** menu.
2. Select where you want to create your compressed file archive.
3. Choose **Stuff** from the **Archive** menu.
4. Select the items you want to compress one by one, and click **Add**.
5. Click the **Stuff** button in the bottom-right corner.

You can also make archives self-extracting. This means that people can open the archive even if they don't have a copy of *StuffIt*. To do this, just select **Make Self-Extracting** from the **Archive** menu after completing step 2.

You'll also find *StuffIt Expander* on the disk. This is a quick and convenient way of unstuffing files that you have compressed with *StuffIt Lite* and many other compression programs.



Using *StuffIt Lite* you can split archives across several floppy disks, enabling you to send quite large files through the post.



Automatically create detailed lists of all your fonts with the wonderful *FontScan*.

FontScan 1.1

FONT UTILITY

Requires: any Mac

Fonts are so easy to come across and install on the Mac that most people have lots. If only remembering what they all looked like was as easy as installing them! This program will create a list of all the fonts that you have installed, with upper and lower case alphabets in that font to show you what each looks like. This can

START HERE

High density floppy disks normally contain a maximum of 1.4 megabytes of software, but to bring you as much as possible, we use a compression program to fit more on. This means you must decompress the software before using it – you'll need 2-3Mb of hard disk space. We also recommend that you should make a backup of the MACFORMAT cover disk, just in case anything goes wrong. Here's what to do...

- Make sure the original cover disk is write-protected (move the tab so that you can see through the hole).
- Insert the MACFORMAT cover disk.
- Drag the disk's icon over your hard disk's icon.
- The contents are copied onto your hard disk, but are still compressed and cannot be used yet.
- Drag the cover disk icon to the Wastebasket to eject the disk.
- Insert a blank high density disk.
- Drag the MACFORMAT 23 folder from your hard disk onto the blank disk's icon to make your backup.
- To decompress the cover disk, open the MACFORMAT 23 folder on your hard disk.
- Double-click on the MACFORMAT 23 icon.
- Click **Continue**.
- A box then asks you where you want to save the software. Choose the place on your hard disk where you want everything stored and click **Save**.

Before installing the cover disk we recommend that you back up any important work on your hard disk. This sensible precaution will avoid problems should any software not be compatible with your setup. We make every effort to check our disks for compatibility and viruses, but the information here is intended as a guide only, and MACFORMAT cannot be held responsible for any damage to data, any inability to use this software or any resulting losses. So please, back up first.

GOT A PROBLEM?

If the cover-mounted high density disk or CD-ROM you have is defective, return it to us and we will replace it. Please make sure you have followed the installation procedures described in these pages correctly, to ensure that there is a physical problem with the disk itself. Otherwise, the replacement will be just the same!

Return HD disks to:
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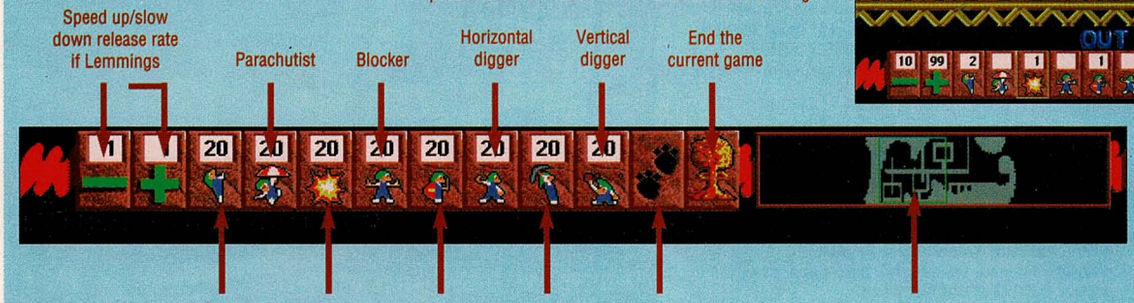
Enclose a self-addressed padded envelope (but we'll pay return postage) with the disk or CD, and a description of the fault. Please do not return disks or CDs to the editorial office; we don't hold stocks of them and can only refer you to the addresses above.

OH NO! MORE LEMMINGS

The lemmings are back in this frustratingly fun game. At the start of a level, the lemmings fall through a trapdoor and start walking until they hit something, drop over a ledge, or otherwise meet a horrible end. Your job is to lead them carefully to the doorway and freedom. To do this, you assign tasks to individual lemmings. Click on one of the skills at the bottom of the screen, then click on one of the lemmings to make him perform the task. You'll have to dig through obstacles, build bridges over chasms and avoid the traps.

Your first job is to click on the horizontal digger icon, then click on this lemming just before he reaches the solid pillar. He will then make a hole and let the rest through.

Once you've solved the puzzle of getting the lemmings to safety, press **[shift]** to speed things up.



DID YOU KNOW?

Real life lemmings do not throw themselves over cliffs. The myth stems from a Disney wildlife program where production staff threw handfuls of lemmings over a cliff so that they could film what they had anecdotally heard was true.

then be printed out and stuck to the wall (or whatever) to help jog your memory.

ComicsCartoon

FONT

Requires: any Mac

This font enables you to recreate the type of writing (no pun intended) used by comic artists the world over. It will be especially useful when you've designed and created your very own comic on your Mac, with the help of our comics feature, which starts on page 42.

DragAnyWindow 3.1

UTILITY

Requires: any Mac

Some Mac windows have the striped title bar across the top which enables you to move the window around. Some don't. *DragAnyWindow* enables you to move any window around whether it has a title bar or not. This can be particularly useful if your Mac has a nine-inch screen and you can't normally see all of a large window.

Broadcast Calendar

SCREEN CALENDAR

Requires: any Mac

Never again will you have to hunt through your desk for that free *National Farmers Union* calendar that you received instead of your *Playboy Special*. For just 30K of disk space you can have a convenient calendar on your Mac. You can display every year from 1926 to 2076, which should be more than enough – unless you're an archeologist, an immortal, a close friend of Doctor Who, etc.

You can't mark up the calendar on screen, so you can't set it up to remind you when it's your granny's birthday. But you *can* print out calendars, so you need never buy a new one again. Just rip off last year's dates from your old picture calendar and affix your printout!

Also featuring

VARIOUS

Requires: see individual Read Me files

LastDitch4 is a *HyperCard* stack by Rod Lawton; read all about it in his feature on page 91. *Bail* is a handy program that enables you to abort a program launch. If you launch a program and then change your mind, just press **[command] [full stop]** fairly quickly.

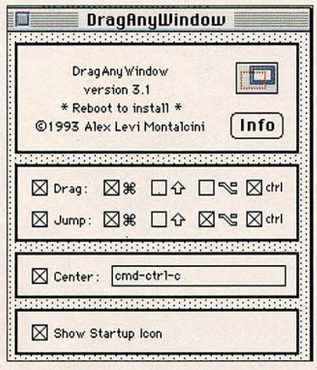
Switching your Mac on entails a boring wait, watching all your extensions loading. *Startup Player* tackles the boredom by playing a tune to make the time pass more pleasantly.

Finally, *eXpress* is a small utility designed to save time. Once it's installed, you can make the Application menu, which is normally in the top-right corner, appear anywhere you want on screen. **MF**

CAT FLAP

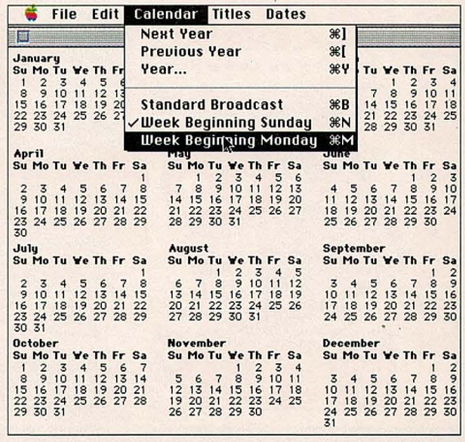
CatFinder (from last issue) had a bug in it that meant it failed to work on many Macs. But don't worry: it won't have affected your Mac. We'll bring you the updated, improved version as soon as it becomes available.

Zap! Bam! Pow! If you're creating your own cartoon, you can give those speech balloons that authentic comic look using *ComicsCartoon*. Holy fonts!



Open the *DragAnyWindow* Control Panel and choose which keys will enable the various functions.

Hmm... according to *Broadcast Calendar* I should have finished writing this page three days ago. Oh dear.



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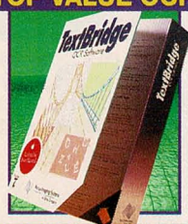

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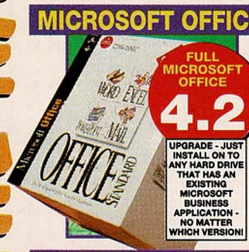

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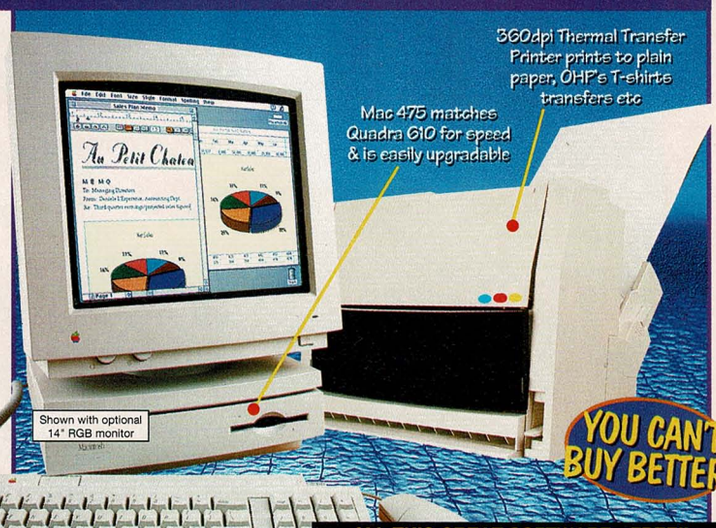
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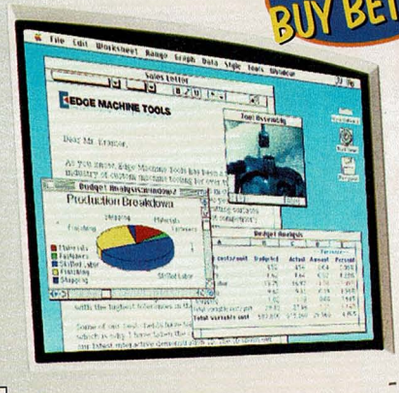

Shown with optional 14" RGB Monitor

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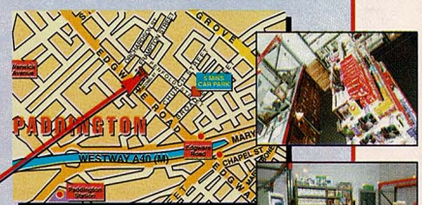

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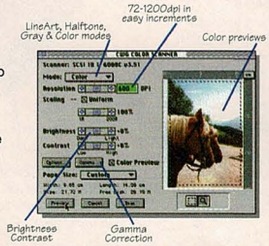

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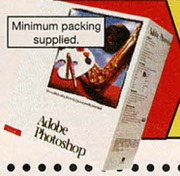

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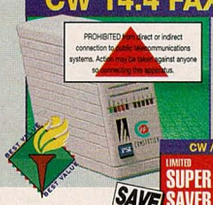
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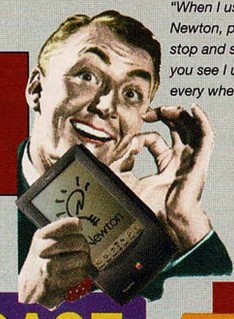

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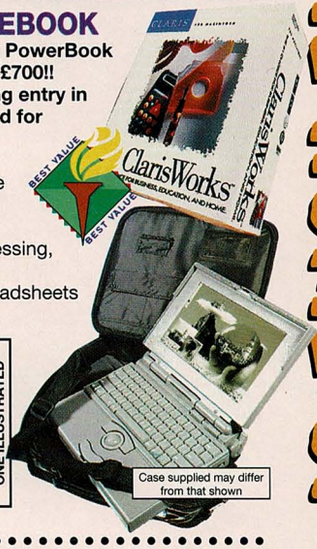

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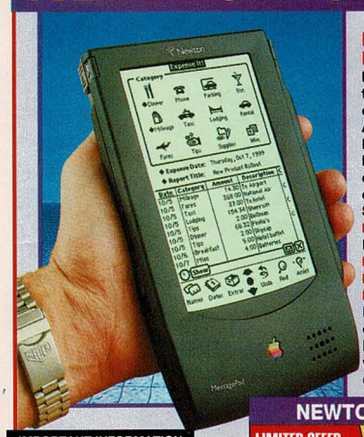

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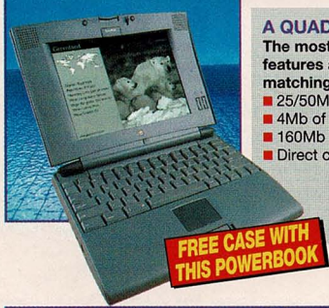

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- 4Mb of on-board RAM (exp to 36Mb) ■ Ethernet
- 160Mb internal hard drive ■ SCSI ■ PDS slot
- Direct color out to 16" ■ Quality grayscale screen

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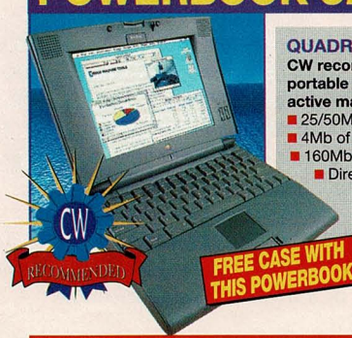
POWERBOOK 520c



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- Direct color out to 16" screens! ■ Dual-scan 256 color display

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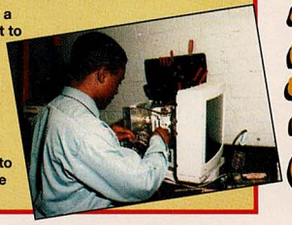

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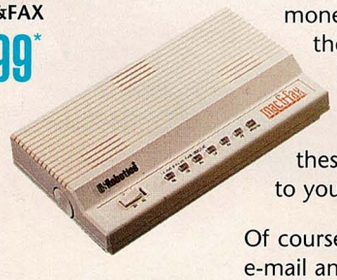

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Mac bargains galore as Apple cuts almost all its prices, while Pioneer joins the Mac clone bandwagon. Richard Hill reports...

Mac prices slashed

Apple is cutting the prices of virtually every Mac it makes by up to 20%, after a strong final sales period in 1994. There's also a spectacular PowerMac offer.

The top bargain has to be a PowerMac for less than £1,300. The 7100/66 DL is a cut-down version of the mid-range model, and comes with a monitor – unlike other PowerMacs. It can't display as many colours and has a smaller hard drive than usual, but this makes it ideal for education and home use.

It's now possible to get the recommended version of the Performa 630 that you'd need to see multimedia at its best, for less than £1,300 – and that includes a top-quality monitor.

Meanwhile, the price of the Quadra 630, which was launched only last month (see MACFORMAT 21's news) falls by £50 to £1,056 (without a monitor). And you can buy a portable PowerBook for less than £1,000, as the price of the 150 is cut by 20%. For more details contact Apple on 0800 127753.

The Performa 630 is one of the best multimedia machines you can buy – and now it's less than £1,500, even with extra software and a TV inside.

How much is that Mac in the window?

If you're thinking of trading your old Mac in for a new model, now's the time to start looking. Here are the new bargain prices. The prices here are Apple's own estimates of what you'll be paying for a new Mac at your local dealer – and they all include VAT.

Performa

Each Performa comes with a monitor, keyboard and mouse – plus software, including *ClarisWorks*.

460 4/160	£769
475 4/250 PP	£845
475 8/250 PP	£963
630 4/250 PP	£1,049
630 4/250 MS15	£1,149
630 8/250 CD MS15	£1,199
630 8/350 CD TV MS15	£1,449

Performa Plus

This range adds extra bundles of software to the basic Performa. The 475 is a home office pack, and comes with *HomePublisher*, *TouchBase Pro* and *DateBook Pro*. The 630, top of the Performa range, comes complete with multimedia CD-ROMs and *ClarisWorks 2.1*. See MACFORMAT 19 for a comprehensive list of the programs in each bundle.

460 4/160 PP	£799
475 4/250 PP	£899
630 8/250 CD MS15	£1,249
630 8/350 CD TV MS15	£1,499

Quadra

The Quadra adds a maths co-processor chip to the Performa model, speeding up calculations like 3D rendering and huge spreadsheets.

Quadra 630 4/250	£1,056
Quadra 630 4/250 MS15	£1,291

Power Macintosh

The PowerMac uses the new PowerPC 601 chip – the fastest personal computer chip available today.

7100/66 DL 8/350	£1,291
8100/80 8/500	£2,584
8100/80 16/500 CD AV	£2,936

PowerBook

The PowerBook is Apple's best-selling portable computer range. Colour screens are denoted with a 'c'.

150 4/120	£939
280c 4/320	£2,819
280c 12/320 EM	£3,289
520 4/160	£1,526
520c 4/160	£2,231
520c 12/320 EM	£2,819
540c 4/320	£3,524
540c 12/500 EM	£4,229

Key: '475 4/250' means Performa 475 with 4Mb RAM and 250Mb hard drive. AV: Audio-visual capabilities inc built-in hi-fi speakers. CD: internal double speed CD-ROM drive. EM: Express Modem included. MS15: Multi-Sync 15-inch monitor. PP: Performa Plus 14-inch monitor. TV: TV tuner card. Other PowerMac prices are unchanged.

Pioneer announces new Mac clones

More Mac clones are on the way. The electronics manufacturer Pioneer is making a range of Mac-based computers. Due out in the summer, the Pioneer Personal Computers will use the Mac chips and operating system. The intention is to place the machines at the heart of your home entertainment system – working with your hi-fi, video and home cinema equipment.

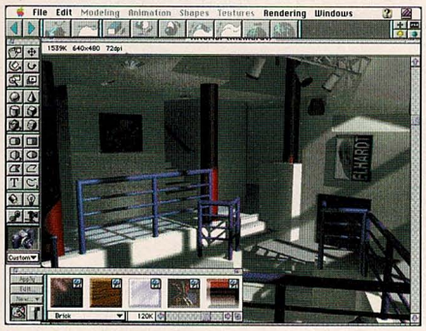
Two models are planned at first. The MPC-GX1 uses a PowerPC 601 chip running at 66MHz (the equivalent of a PowerMac 6100/66), with built-in speakers and a quad-speed CD-ROM drive (that's twice as fast as the usual speed). The MPC-LX100 uses the same main chip as Apple's Performa 630, a 33MHz 68LC040, and also includes the speakers and CD-ROM drive.

Pioneer is also working on software, monitors and a LaserDisc player to work with its Mac clones. Prices and release dates will be announced later. Pioneer is the biggest name yet to license Macintosh technology from Apple. It joins Radius, which is making a high-power video editing system, and Power Computing, which is making cut-price PowerMac clones. Meanwhile, Cutting Edge, a small firm based in California, is launching an unofficial Mac clone called the Quatro. Look out for more details soon.

Soon you'll be able to use your LaserDisc video player with the new Mac clones from Pioneer.

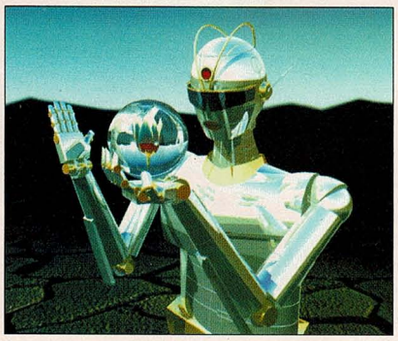
3D vision for Mac

Apple is bringing out a piece of System software that could do for 3D art and design what QuickTime has done for video. It's possible that with its help, Macs could soon be producing the sort of images you've only seen made by high-power Silicon Graphics workstations.



Strata StudioPro is one of the programs that are being set up to use QuickDraw 3D.

The new system's called QuickDraw 3D (not to be confused with the printing system QuickDraw GX). Any program that uses its standard will be able to show 3D objects and animation. And different programs – a 3D renderer and a desktop publisher, for example – will be able to swap files that describe objects.



You'll be able to swap 3D images, like this *StudioPro* shot, between any programs that use the new system.

The software runs only on PowerMacs. Apple is not saying if a version will be made for standard Macs like the Performa, but if QuickDraw 3D is as powerful as Apple claims, then this seems highly unlikely. The system will be included with the Mac operating system software on all PowerMacs from the summer, and become integrated with the Mac OS when the next major update – Copland or System 8 – is released in 1996. Many software companies are already working on incorporating it into their future programs. Such companies include RayDream, which is the creator of *RayDream Designer*, and Specular, which makes *Infini-D* – our cover disk star last issue.

The most identifiable part of QuickDraw 3D is a new type of file format called 3DMF. You'll be able to load and display your 3DMF files in any application that uses QuickDraw 3D, just as many word processors can recognise a *Microsoft Word* file because they're programmed to understand *Word's* format.

Information in the file can include shapes, textures, lighting and camera viewpoint, so all this data can be swapped between programs. Expect other users and companies to create fully-rendered images and wire frame models to sell commercially or as shareware, especially once a version for PCs running Windows appears later in the year. Libraries of 3D files should become as common as clip art or photo libraries.

The software also includes specially-written code to speed up the PowerMac when it's rendering the files, while programming guidelines should mean that QuickDraw 3D-compliant programs will have a similar feel and control system, making creating fantastic images even easier. 3D accelerator cards are also being developed by companies including 3DLabs and YARC Systems.

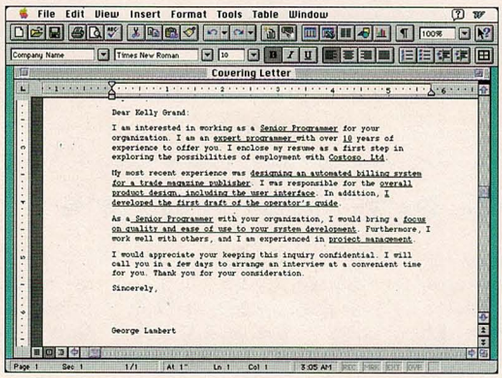
Look out for more 3D developments in future issues of MACFORMAT.

Word 6.0 gets quick fix

The new version of the best-selling word processing program, *Microsoft Word*, is receiving a revamp that will be available free of charge to its users. Microsoft announced the release of *Word 6.0.1* after criticisms from some of its customers about aspects of version 6.0, including complaints about its speed compared to the previous version, 5.1.

The release was announced at a joint press conference held by Microsoft and Apple that illustrated the complicated relationship between the two companies. The conference was called to reiterate Microsoft's support of the Mac, despite its position as the creator of Windows, the rival operating system to the Mac OS. The following week, Apple announced it was taking Microsoft and other companies to court over a separate issue (see our 'QuickTime storm' story in Apple Bytes on this page).

Registered users of *Word* will be contacted about the free update later this month. Microsoft says the improvements include a faster loading time, a faster word count, and the elimination of problems with some Extensions made by other companies. The new version will also become part of *Microsoft Office 4.2.1*, the renumbered bundle of business software that includes *Word*, *Excel* and *PowerPoint*. For more details contact Microsoft on 01734 270000.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Dear Kelly Grand:
I am interested in working as a Senior Programmer for your organization. I am an expert programmer with over 10 years of experience to offer you. I enclose my resume as a first step in exploring the possibilities of employment with Contoso, Ltd.
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As a Senior Programmer with your organization, I would bring a focus on quality and ease of use to your system development. Furthermore, I work well with others, and I am experienced in project management.
I would appreciate your keeping this inquiry confidential. I will call you in a few days to arrange an interview at a convenient time for you. Thank you for your consideration.
Sincerely,
George Lambert

The Mac version of the world's favourite word processor should be improved very soon – but why wasn't it done in the first place?

Apple Bytes

Mac market share rises

Proof of the explosion of interest in computing comes with the news that an estimated two million personal computers were sold in Britain during 1994. And according to research firm Wharton Information Systems, Apple had a spectacular Christmas, grabbing 13.8% of the market during December – a boom time for family computer sales. Apple's share came a close second to Compaq's 14.9% and beat every other PC maker's sales. Wharton says the Performa range was particularly successful.

More evidence of the healthy condition of the Mac comes with Apple's fanfare to mark the one millionth sale of a PowerMac, just ten months after it was released. The new high tech machine is catching on faster than anyone had expected – including Apple itself, which had set itself the target of reaching this figure in 12 months.

QuickTime storm

Apple is taking leading software company Microsoft and giant chip-manufacturer Intel to court. The dispute is over claims that Apple's program code for QuickTime, its video playback system, has been pirated.

The claim comes in a lawsuit that's been filed against the pair of industry giants and the San Francisco Canyon Company. Apple says that Canyon duplicated a significant amount of code of the Windows version of QuickTime when it produced similar systems – including *Microsoft Video For Windows* – for Microsoft and Intel.

Apple is attempting to get the current versions of these systems withdrawn from sale, and in a related move has made the licence to use QuickTime free of charge for any developer who wants it – on Mac OS or Windows. Microsoft says it doesn't believe any of the code exists in the current version of *Video For Windows*, and has not agreed to withdraw it.

Mac gets Speed Doubled

A new utility, due later this year from Connectix, promises to boost the working speed of your Mac. The *Speed Doubler* program offers several functions – including speeding up file copying with the Finder – that combine to make your Mac zoom along. It's a companion program to the popular *RAM Doubler* utility.

It will also speed up PowerMacs. When running programs written for a standard Mac, PowerMacs have to use an emulator program to translate the commands so the PowerPC chips can understand them – which takes time. *Speed Doubler* sets the most common parts of a given program to one side so they don't need to be translated time and time again while the program is running. The price of *Speed Doubler* is not confirmed but is expected to be around £82. For more details contact Computers Unlimited on 0181 200 8282.

Price rise

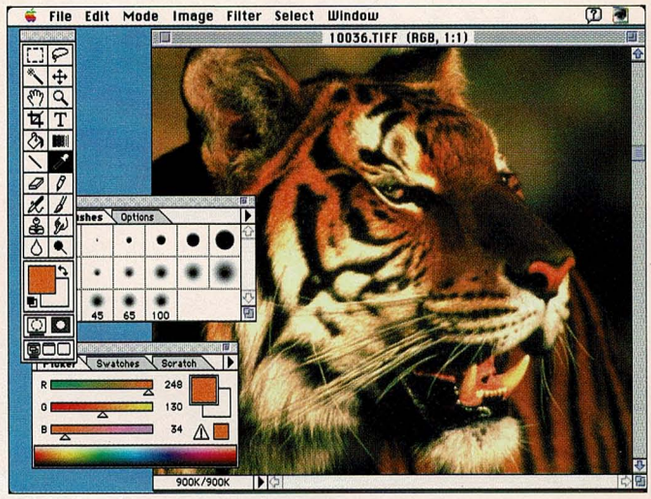
Due to the ever-increasing cost of the paper we use, the price of MACFORMAT will increase slightly from next month, to £3.99 for the disk edition and £4.99 for the CD-ROM edition.

Quark challenges Photoshop

Adobe's best-selling image processor, *Photoshop*, is to get a new rival: *QuarkXPosure*. An official announcement from Quark – the creator of the leading DTP program *QuarkXPress* – is expected this month. *QuarkXPosure* is said to offer significant improvements over its rival, including a concept called a 'lens'. With the lens function you can move a lens shape over the image that you're working on to see instantly how a particular effect will change it, before you decide to spend time making the change.

Another interesting feature is a list of changes you've made to an image. You'll be able to undo or modify any change – not just the last action you did.

The launch of *XPosure* is a strong response to Adobe's purchase of the Aldus firm, which has raised the prospect of *Photoshop* being linked more closely with major DTP package *PageMaker*.



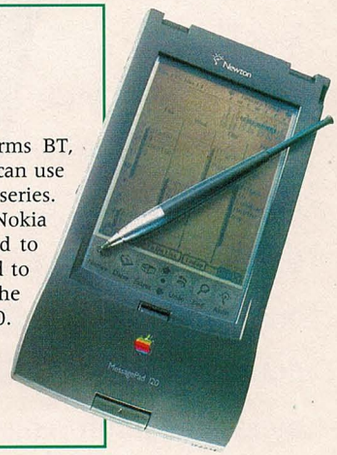
Photoshop is the program of choice for most graphics professionals – could *XPosure* be the one to topple it?

Revival of the Newton

Apple's portable Newton technology is attracting more attention after a low-key start. The latest of the company's personal digital assistants (PDAs) is beginning to show the potential of having a computer in your pocket, with the option to use a slot-in card and a mobile phone to send faxes and e-mail – from anywhere at any time. The PDA dream of providing instant information on the move is becoming a reality, and this opens up possibilities that could strongly affect the way you use your Mac.

The MessagePad 120, priced at £499, includes personal management and e-mail software. Motorola and Panasonic are also showing an interest in PDAs – Motorola's Marco is based on Newton technology, while Panasonic is planning to launch a Newton-type machine later in the year.

Apple is teaming up with telecommunication firms BT, Nokia and Cellnet to offer all-in-one phone kits you can use with the MessagePad 120 or the PowerBook 500 series. Due later this spring, the PowerBook kit gives you a Nokia mobile phone with the cards and software you need to hook it up to your PowerBook. The price is expected to be around £820. The MessagePad will come with the connections and phone in one box for under £1,200. For more details contact Apple on 0800 127753.

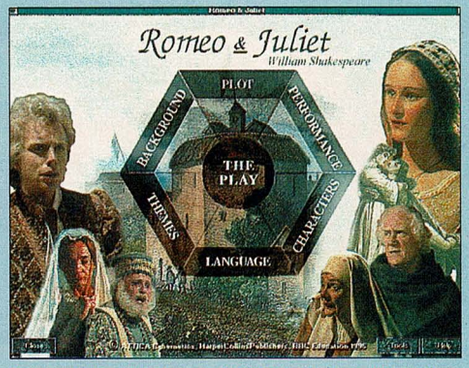


The computerised personal assistant has had a shaky start, but the MessagePad 120 may signal a change in its fortunes.

Coming soon to a Mac near you...

Psygnosis' latest attempt to conquer the games universe – after the phenomenon of *Lemmings* – is *Discworld*. As you might expect from the name, it's a graphic adventure based on the hit book series by Terry Pratchett. The pictures appear to capture the humour of the writing, and if the game plays well too, you can expect as many *Discworld* CD-ROM titles as there are books. Look out for *Discworld* in May.

He's alive...! The tragedy of Frankenstein comes to the Mac with the creation of Interplay's *Frankenstein: Through The Eyes Of The Monster*. As the creature, you wake to see your creator for the first time – Dad is played by a deliciously hammy Tim Curry. But how did *you* get here, and what became of the beloved young daughter you once knew? You'll have to wait until this CD-ROM's May release for the answer.



Everyone's favourite Auntie, the BBC, is bringing a little culture to CD-ROM with the Spring release of *Romeo and Juliet*. It's the first of a series of the Bard's work in digital format, with *Macbeth* and *A Midsummer Night's Dream* to follow. The Beeb has collaborated with developer ATTICA and book publisher HarperCollins, and the series has a strong educational emphasis, with optional notes for teachers available.

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The 500 series can offer even more power later. You will be able to upgrade to PowerPC™ technology as soon as it's available for PowerBook. (Contrast this with 486 series notebooks that aren't upgradable to Pentium™ technology.)

More precision. Direct your attention to the revolutionary new Apple trackpad pointing device that now replaces the trackball and is in the centre of the comfortable palm rest.

The trackpad brings a new level of precision to

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PowerBook computing. The trackpad's ultra-sensitive surface senses the touch of your finger, tracks it across the pad and moves the cursor across the screen accordingly.

This intuitive method of moving the cursor, combined with the new dual-scan and active-matrix screens, gives you much more precise control over the location of the cursor and makes extremely detailed work possible (it's precise enough for photo retouching) wherever you happen to be.

The revolutionary new Apple trackpad makes pointing and clicking even more intuitive than before.

The PowerBook 540c has what may well be the finest screen ever to grace a notebook computer: an active-matrix, 9½″ display capable of showing thousands of colours at the same time. Combined with QuickTime™ video and built-in CD-quality stereo sound, this makes for spectacular presentations in the most unspectacular locations: on a crowded plane, in a noisy restaurant, wherever.

More expandability. The PowerBook 500 series includes a lot of things that aren't standard on ordinary notebook computers.

Things like built-in file sharing and networking, stereo sound and video-out. Award winning ClarisWorks™ software, Macintosh PC Exchange™ software, and PowerBook File Assistant file-synchronising software. Plus Apple Remote Access software that allows a modem-equipped PowerBook to work with the Macintosh™ computer on your desk and with your network, as if you were sitting in your office.

Even during those times when your office happens to be thousands of miles away.

Still there's a lot of room to grow. These are the first PowerBook computers to come with a built-in Processor Direct Slot (PDS) for third-party expansion modules.

And they're also the first ones to offer the optional plug-in PowerBook PCMCIA Expansion Module, so you can use two Type II or one Type III PCMCIA card for even more flexibility. You can even install an optional 14.4 kbps express modem to send and receive information and faxes quickly and, when it becomes available, a third-party cellular interface for convenient wireless access to your office via the GSM network.

More battery life. Even the batteries have been redesigned. The PowerBook 500 series can use two PowerBook Intelligent Batteries.

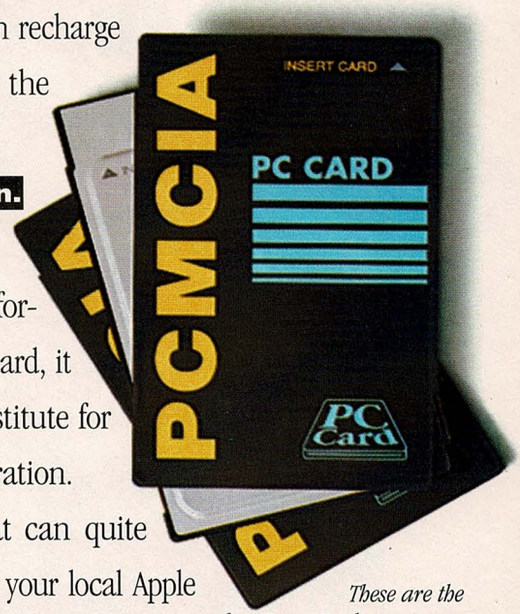
These high-powered NiMH batteries use special processors within each pack to monitor battery power and the new PowerBook Control Strip-power management software that tells you exactly how much time you have remaining.

The result is 40% more battery life than before – up to seven hours per charge – when using both batteries.

They recharge faster, too – in as little as two hours for both batteries when the PowerBook is asleep or shut down. And the batteries even recharge while you're using the PowerBook.

More information. While this has been an abundance of information, by any standard, it can't serve as a substitute for a personal demonstration.

Something that can quite easily be arranged at your local Apple Authorised Reseller.



These are the first PowerBook computers to use PCMCIA technology.

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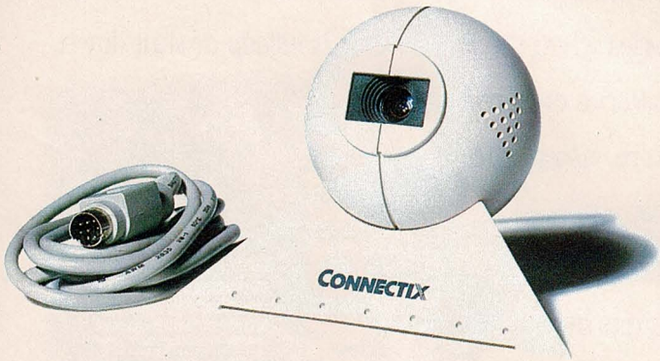
WHAT'S NEW

MACFORMAT'S product preview section gives you a first look at an exciting, inexpensive video camera, some *loud* speakers and a bit of very useful printer cable. Compiled by Richard Hill.

Connectix QuickCam



At only £152, the QuickCam is a tiny device that could catch on a big way. The first version of this compact digital video camera is a little rough around the edges, but the idea is there. You can now film and edit your own video material without the need for expensive graphics cards and add-ons. The QuickCam's great for making rough movies before wasting energy on a polished version, quickly taking still pictures and printing them out for reference, sending video e-mail, or just plain goofin' around with your friends.

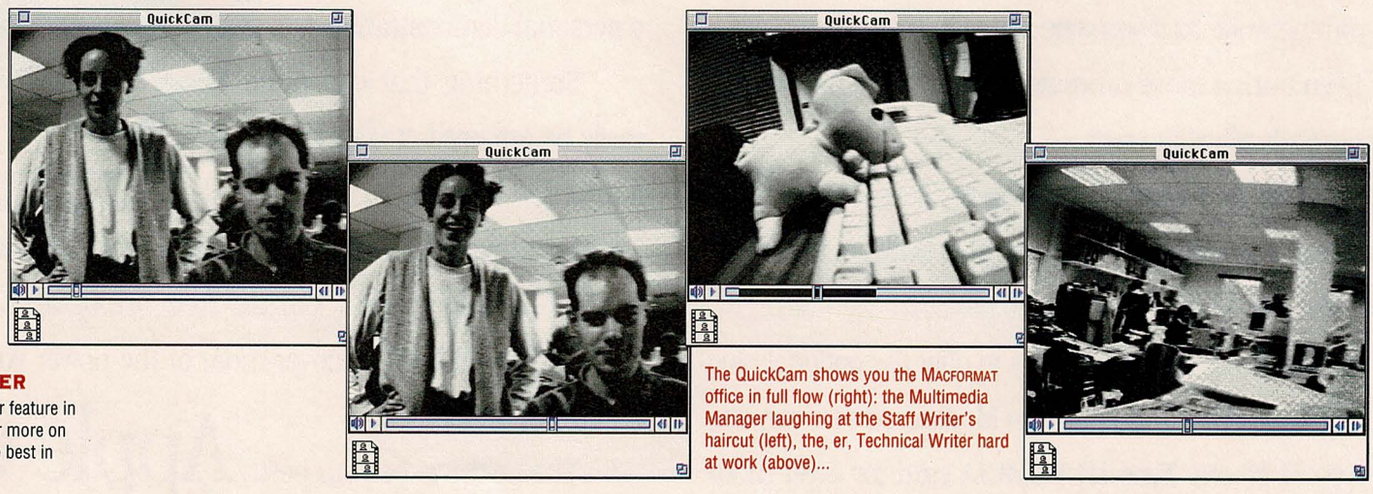
The camera is housed in a sphere of about two inches in diameter and plugs into a spare serial port in the back of your Mac. Like a mouse, it takes the power it needs to work through the port. There's a program you can use to record and play back video clips. It's so simple you don't need to think about how to use it.

The QuickCam isn't perfect. The most crucial problem is that it only films in black-and-white, and the picture is small – 320 by 240 pixels. This does mean that the files you create take up little space on your hard drive, however, and a colour version is forthcoming.

The speed of the display needs to be improved from its current 15 frames a second, and the lead connecting the camera to your Mac could be longer – at the moment the lead length restricts the ways in which you can use the QuickCam.

But there are, potentially, so many uses. And the more you use a QuickCam, the more you'll think of to do with it.

- **Price: £152. Out: now.**
- **Requires: LC or better, System 7, 4Mb of RAM and a greyscale or colour monitor.**
- **For more details contact Computers Unlimited on 0181 200 8282.**



The QuickCam shows you the MACFORMAT office in full flow (right): the Multimedia Manager laughing at the Staff Writer's haircut (left), the, er, Technical Writer hard at work (above)...

VIDEO POWER
Take a look at our feature in MACFORMAT 21 for more on how to create the best in desktop video.

BOX OF DELIGHTS

Adobe threesome

Graphics software company Adobe is jumping on the lots-of-software-in-one-box bandwagon with the *Adobe Collection*. The bundle contains the image processor *Photoshop 3.0*, the design and draughting program *Illustrator 5.5* (reviewed on page 66) and the 3D program *Dimensions 2.0*. Normally this trio would set you back more than £1,500, but the *Collection* retails at £963.50. Bundles like this and *Microsoft Office* are becoming a more popular way of buying software. For more details contact Principal on 0181 813 5445.

Pick up a printer

If portability is what you're looking for in a printer, Citizen's latest model could be just the job. The company claims its PN60 thermal printer, out later this month, is the world's smallest and lightest to date. Despite measuring 25.4cm x 5cm x 4.7cm and weighing only 500g (1.1lb), it can take A4 (magazine size) paper. You can use most standard sorts of paper; there's no need to buy special sheets.

The PN60 seems well-suited to Mac owners with limited space, or PowerBook users. It costs £410 with a black-and-white ribbon. A pair of colour ribbons, giving limited colour printing abilities, is also available for £10.56. For more details contact Citizen Europe on 01753 584111.

Europe on a CD

What better way to mark Britain's ongoing love affair with Europe than the latest CD-ROM in the PhotoDisc series? *European Business And Lifestyles* is a collection of over 300 examples of what's called stock photography. Copyright has been waived on these pictures, so you can use them in any of your Mac design work. This disc contains images showing how the people of Europe work and play, and a program to help you browse through the selection.

This latest disc is Vol 17 in the ongoing series of themed releases. It costs £292.58, and gives screen versions of each image, plus versions for printing at 300 dpi. For more details contact PhotoDisc on 0800 697622.

The *Lightbox* browsing program shows you all the images on PhotoDisc's European CD-ROM.

Wired up

With the explosion of interest over the Internet and e-mail (see our guide book that came free with this issue), new modems are coming out thick and fast. The Multitech ZDX 28.8 is the latest addition. Priced at £374.83, it uses the V.34 standard to offer transmission speeds of up to 28,800 bits per second – fast enough for heavy use of the 'Net. The data compression facility means data can be sent at up to four times faster than usual.

Fax software is also included; it runs at 14,400bps. For more details contact Computers Unlimited on 0181 200 8282.

Aiwa SC-C55 speakers

If you're using a Mac for entertainment, external speakers are becoming an essential requirement. When you're used to the high quality picture of a Mac, surely it's sensible to make the most of its sound abilities? Hi-fi manufacturer Aiwa thinks so, which is why it's launched its first pair of speakers made for your Mac.

The speakers themselves are compact – just 18cm tall. Despite the size, the sound is decent enough, with an output of 3.6W (you won't be disturbing the neighbours). Hi-fi speakers are better, but those have the advantage of size and build. At least you shouldn't experience too much of the bass rumble endemic to small speakers.

Controls are sparse, with power, volume and ambiance controls adorning one speaker. The leads are arranged in a daisy-chain style, with one lead connecting the left speaker to your Mac's earphone socket, and the other lead joining the left and the right speakers. These leads are just long enough, but no longer, to get the speakers nicely placed on either side of your Mac.

The combined power supply and plug is bulkily designed and could prove to be a hindrance in computer setups where every plug point counts. But on the essential requirement – the sound – Aiwa has delivered the goods.

■ Price: £49.99. Out: now.
■ For more details contact Aiwa on 0181 897 7000.

MULTIMEDIA PACK

From the end of March, Aiwa will be selling these speakers as a package with its CD-ROM drive (reviewed in MACFORMAT 22). Expect to pay around £350 or less.

PowerPrint 2.5

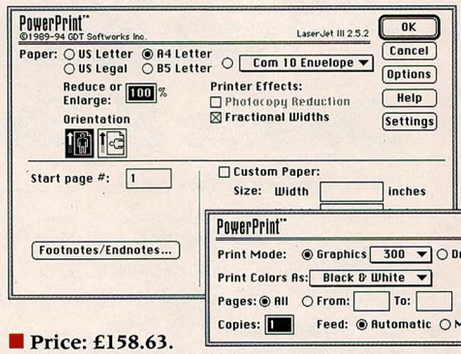
With PowerPrint, you can connect your Mac to almost any PC-compatible printer, including colour models. PC printers have a slightly different design from Mac printers, so this isn't something you can usually do.

A cable links the serial port of your Mac to the parallel port of the printer, while the supplied discs install a printer driver Extension into your System Folder. You can now use the Chooser to select the printer.

It's easy to set up. The manual lists all the models PowerPrint can use, and keeps its instructions simple. You may need to check the switches on the printer to make sure they're set so the driver will work, but the printer manual can help you out.

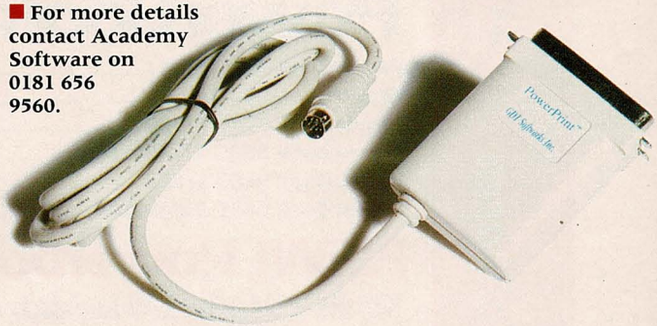
The only difference you'll notice from here on is the dialogue boxes that come up when you print. There are some nice touches, like a built-in page preview option, so you can see the entire layout on-screen before you commit it to paper.

The main drawback is that its output is QuickDraw only, so it won't work with programs like *QuarkXPress*, which uses the PostScript language to print its pages. But if you're moving from using a PC to a Mac, you can use your old printer as easily as using a Mac printer.



■ Price: £158.63. Out: now.
■ Requires: Mac Plus or later, System 6.0.7 or later and 2Mb of RAM.
■ For more details contact Academy Software on 0181 656 9560.

PowerPrint takes over your Mac's printing system so you can use it with almost any printer designed for a PC.



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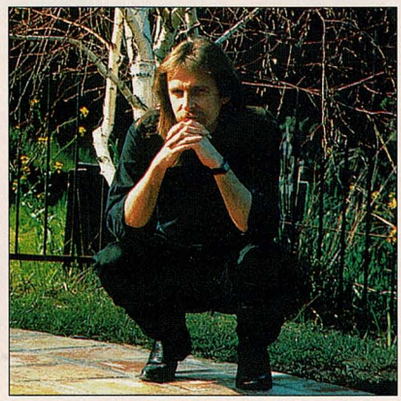
MACROSCOPE

The stories behind the news, the people behind the headlines – every month, MacroScope brings you the wider picture and the background information you need to make sense of the news in the Mac world...

Secret weapon

Kai Krause, designer of innovative graphics packages like *Kai's Power Tools* and *KPT Bryce*, talks about design dinosaurs and his response to brain-dead design logic...



Kai Krause, the 'K' in 'KPT', has more interest in design than he does in economics: 'I love the idea of ruining the price-performance curve.'

After releasing a machine gun burst of graphics programs over the last few months, HSC Software has become one of the most talked-about firms on the Mac scene. Titles like *Kai's Power Tools*, *KPT Bryce* and *Convolver* have introduced powerful image creation and manipulation facilities at keen prices. They've also introduced interfaces that abandon the traditional Mac window-and-menu model.

Ideas like this hidden colour wheel give early indications of what Kai Krause has in mind for his most ambitious project to date – *Amazon*.

It's not a gimmick, and the inventor, design guru and evangelist of the Internet, Kai Krause, has little time for those who can't see beyond the novelty value. 'It's not about little turquoise spheres,' he says, 'it's about hiding complexity from the user. To me the perfect user interface is like a piano. You could just try it for a few minutes and say, "It's just these hammers that hit these strings," and then along comes Chopin. You have to put in a certain amount of investment to appreciate what it can do.'

Watch for a review of *KPT Convolver* in MACFORMAT soon

After spending years designing software for all sorts of computers, not least the Mac, Kai is applying the principles he's come to believe in to an ambitious project called *Amazon*, which has so far taken 18 months to develop.

He intends to challenge everything you thought you knew about the way you use computers. 'I maintain that everything we now have will be thrown away. Every piece of software – including my own – will be complete and utter junk. Our children will laugh about us – they'll be rolling on the floor in hysterics, pointing at these dinosaurs that we are using.

'Design is a very tricky thing. You don't jump from the Model T Ford straight to the latest Mercedes – there's a million tiny things that have to be changed. And I'm trying to come up with lots of little ideas where afterwards you go, "Yeah of course! It's obvious!"

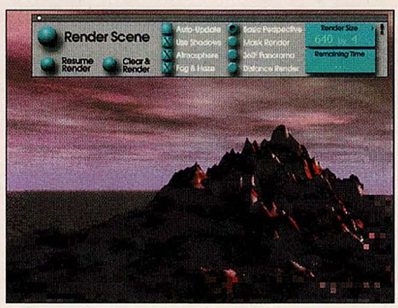
'Here's an easy one. For years we had eight character file-names on computers. Now that we have more characters, it seems ludicrous, an historical accident that it ever happened.

'What people don't realise is that we have hundreds more ideas that are equally stupid, buried throughout the structure of software design – from the interface to the deeper levels of how it works inside.'

A simple example of what Kai is talking about is all those colour picker wheels. Many programs require you to open up a dialogue box from a menu before you can see the selection of colours – a design logic Kai calls 'brain-dead'. In *Convolver*, the colour wheel is hidden until you click on a single button. 'I tried to make one that doesn't take up any space. You click and it pops up momentarily. You drag to a colour, let go and it's gone.'

HSC has grown from eight employees to a thriving 100-strong firm by building on an image-processing background in ever more imaginative ways. But *Amazon* looks to be taking the company into uncharted waters. Kai says, 'I'd like this to be a completely modular and open-ended framework – almost like an operating system, just not in the sense that I do networking and printer drivers. An operating system in the sense that once you're into it, you may never leave again. If you're in *Photoshop*, you leave it go to the Finder and find your files. I'm going to provide all of that in a really cool way.'

This radicalism is far removed from the



KPT Bryce broke new ground (excuse the pun) in offering realistic 3D capabilities at a dream-like (well, okay, very reasonable) price.

The Krause team's latest offering is *KPT Convolver*, which you can use to play with images in a wide variety of ways – the only limit is your imagination.

KPT WHAT?

The *KPT* part of *KPT Bryce* is easy enough to understand, but where does the *Bryce* part come from? The story goes that early in the program's development, someone noticed a landscape it had generated and thought it looked like Bryce Canyon in the US. The name stuck.

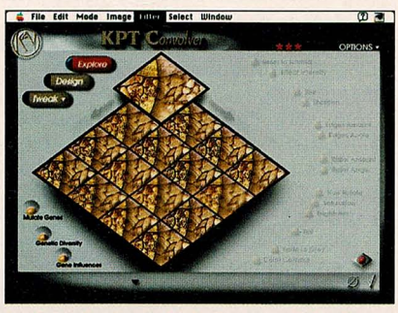
MORE ON BRYCE

For more details about what *Bryce* is and what it can do, see the review on page 46 of MACFORMAT 20.

careful progress of much software design. 'The problem for large companies is that they can't start with a blank canvas,' says Kai. 'There's no way they can't take this incremental approach. Even if a large company like Microsoft tried to do it, they'd have 15 people working on each part of the program – and design is not a democracy. If anything, it's a benign kingdom. There has to be one person who can put their brain around the entirety of it.'

Kai is reluctant to go into the specifics of *Amazon* for the time being because if it comes off, it will do so through an advance in ideas rather an advance in technology, he says. And ideas are notoriously difficult to protect from those who might wish to copy them. 'Say I give you a piece of paper and tell you it's worth a million dollars,' he explains. 'And you buy it and on it are ten sentences explaining how to turn a piece of wire into a paper clip. If you're the first person to invent the paper clip, that piece of paper's surely worth a million bucks – but once you know how to do it, anybody could do it. There's no way to protect the idea.'

If *Amazon* proves to be as revolutionary as Kai Krause claims, aspects of it are certain to be copied. HSC could opt for the path of patents and lawsuits to guard its territory for a short time, but Kai insists that's not his style: 'I believe that you shouldn't try and protect yourself legally – you should just get ahead of the rest and run like hell.' **RICHARD HILL**



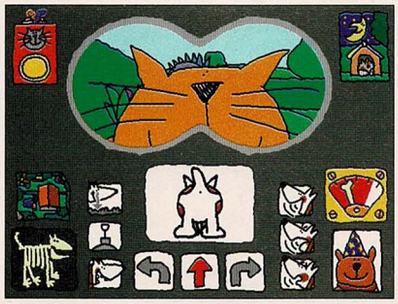
Use the exploration tool to bring up a set of options based around one design alteration – or if you feel reckless, go wild and change everything.

Domestic Funk

The team behind *PAWS*, an enchanting multimedia title for children, reveal why they chose a dog's life...

The moment you hear the music of *PAWS*, a smile comes to your face. It's a delightful multimedia exploration of what it means to be a cartoon dog, with an innocent sense of fun that won it a MACFORMAT Classic Award last issue. It's a CD-ROM for children that adults will enjoy playing with just as much.

PAWS marks the first collaboration of the creative team that makes up Domestic Funk Products: Alan Snow, Nick Batt and Dave Furlough. Alan Snow begins the story: 'I had this idea for a music-based product [which never came to fruition], which I came to Nick about. Through that I met Dave. I'd been doing



Dave Furlough on the structure of *PAWS*: 'The key thing is integrating different techniques so the user is unaware which one they're watching.'

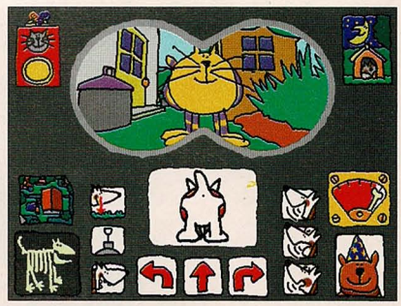
book illustrations for about ten years. There's a book called *How Dogs Really Work* – in many ways that book was a template for this.' (In fact the book won several awards, including a New York Times accolade for Children's Book Illustrator of the Year.)

Nick Batt adds: 'We started working on a couple of prototypes, sold *PAWS* and became the *bone*-a-fide Domestic Funk Products...' (He apologises for the pun.)

'Al does the illustration work and comes up with a lot of the seeds for ideas that we start working on. I do the audio work and a very little amount of programming. Dave does most of the programming and a lot of administration as well. Together we do all the design and work out the interface. We all get together in a room and shout at each other for two hours and come with loads of ideas.'

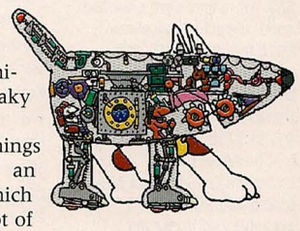
This issue's MACFORMAT cover CD-ROM includes a video called *The Making Of PAWS*, giving you more behind-the-scenes glimpses – and all of it's true. Dave Furlough observes: 'We really did make Alan walk round a garden with a camera stuck to his head.'

Its infectiousness aside, *PAWS* brings a genuinely different visual style to the Mac. Alan says, 'What we've done in a way is regard it as grunge computing – it's the sort of approach that's taken by Bob Godfrey (the creator of *Roobarb*) and other British animators, who are geared toward content not gloss.'



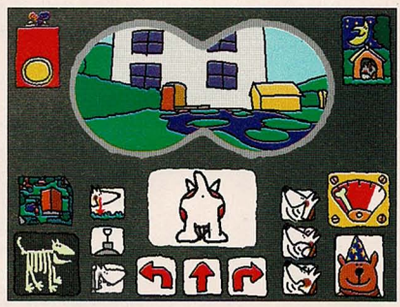
Uh-oh, it's the stripy cat. Paws the Dog lives in a childlike cartoon world that you're free to explore through his eyes.

'One thing we didn't want to be designing was something that looked really flash but ran really slowly,' adds Nick. 'We're much more into the humour and the feeling you get while you're playing it – although we like to think we have been a little clever. It's just the immediate feeling you get from it – the smile factor. You see some kids' products and the humour is so sanitised – "We've got to make it squeaky clean, we can't offend anybody."'



Dave Furlough adds: 'All of the things we're talking about doing have an element of humour about them, which is something that's missing from a lot of computer software at the moment. Speed and violence tend to be the major aesthetic values that are expressed. We owe more to Chuck Jones and Robert Crumb than Stallone and Schwarzenegger.'

PAWS is so easy-going, it looks as though it must have been simple to do, but its creation demanded close co-operation between the team members. Dave says: 'The key thing is integrating QuickTime video with still frames and other types of animation, in such a way as to leave the user unaware which one they're watching.'



The design of the garden required dedication: 'We really did make Alan walk round a garden with a camera stuck to his head.'

The basic, hand-drawn *PAWS* feel continues into the next DFP project, but the ideas behind the program don't take the easy route of simply imitating those of its predecessor. Nick Batt says, 'We're planning a bizarre three-dimensional cyberspace drain adventure. It's like a quest adventure, but it's going to be completely off the wall. Anything could happen at any time.' **RICHARD HILL**

EVERY DOG'S DAY

PAWS was reviewed in MACFORMAT 22. It's now scheduled for release at the beginning of April, so be patient. For more details about *PAWS* contact Softline on 0181 401 1234.

PCs just don't add up

MACFORMAT columnist Josef Morrell reckons he's found what every PC owner has been waiting for all these years... a new bit of kit that gives them the best of both worlds.

In their heart of hearts, every PC owner really wants a Macintosh. You won't find many of them ready to admit it, but they are sick and tired of CONFIG.SYS and WIN.INI, and would give anything for the simplicity and comfort of the Finder and a few Control Panels. That's why Windows '95 – surely the most optimistically named piece of software ever – will have so many Mac-like features.

No one really wants to have a PC. I know: I was that soldier. The moment I could afford it, my 386 PC went skipwards (well, all right, I sold it to an unsuspecting bloke down the pub), and I went out armed with a minty fresh bank loan and came back with a Centris 610.

Even some of the fiercest PC loyalists I know are changing their minds – like the bloke who was so into PCs that he could talk uninterrupted for at least an hour on the relative merits of the 486DX4/100 vs the Pentium P60; who had a DX2/66 tower system next to his bed with the alarm clock perched on it; who had been known to wire up an Ethernet network in his living room so he could play *Doom* with his lodger. He's a 100% PC man. Or rather he was.

You see, after a while the text adventure game often needed to make a PC work properly can begin to pall. And the office credibility of being the one who understands the things turns into a right pain in the backside if the secretary's PC keeps falling over with an intermittent fault. Unless you're trying to impress the secretary, that is.

Let's face it, IRQs and base memory addresses aren't big and they aren't clever. I think Mr PC saw me install a new piece of software onto my Mac in seconds once too often for comfort. But what really turned him Macwards was the Pentium fiasco.

I expect you've heard the story – an obscure bug in the Pentium chip means that when you divide certain pairs of numbers together it comes out with a slightly incorrect result. I heard an Intel executive the other day explaining that the error would only really matter in complex financial or engineering calculations. So that's all right then.

But it wasn't the existence of the error that annoyed my friend – after all, the chances are that in something that complex, errors will creep in somehow; from hardware, software or even just user mistakes. No, it was the fact that Intel didn't tell anyone for months when they discovered the bug. Then they offered to replace the chips if you could show you were *likely* to divide these two numbers together. Finally, under a storm of protest, they agreed to replace anyone's chips for free, thereby creating a huge market in duff Pentium jewellery. I saw an excellent T-shirt at Macworld in San Francisco, which carried the message: 'Pentium or PowerPC – do the math'.

Mr PC still can't buy a Mac, though, as his company – manufacturers of car roof rack components – uses a lot of custom-written software created for the PC. An unsuspecting Apple salesman attempted to sell him a Power Mac running *SoftWindows*, but was laughed out of court; *SoftWindows* only runs at 386 speeds. It seems roof rack manufacturing needs more power that that.

But Mr PC was certainly very interested in the latest toy I brought back from San Francisco. Definitely the star of the show, it made even me get my wallet out – which as any of you who have met me near a bar will know, takes some doing.

The object of my expenditure was the Reply DOS On Mac Card. This tiny piece of green circuitboard fits into the PDS expansion slot inside my Centris and adds a complete PC on a card. On the cigarette-box-sized board are a 486DX2/50 chip (I couldn't justify the extra cost of a DX2/66), 8Mb of RAM and a SoundBlaster 16 sound card. Now when I hit **[command] [return]** the Macintosh screen gently fades out and is replaced by Windows running at full 486 speed.

You can now fit all this into your Mac, giving you all the advantages of both a PC and a Mac, but leaving yourself a bit of desk space and some change in your wallet.
ENCARTA

The card shares my Mac printer, Mac modem and Mac CD-ROM drive (although I haven't yet persuaded it to talk to the scanner). It runs noticeably faster than the 486SX I have in the office, and seems to be able to run pretty much everything I've tried, including *Doom*. You can cut and paste between Mac and PC, and because both processors run simultaneously, if you have a second monitor you can see Mac and PC environments at the same time.

And best of all it only cost me $500. Admittedly that was a special show price, and it was only supposed to have 4Mb of RAM (I did some swapping about with the Mac's memory when I got home), but nonetheless it's an extraordinary price. To buy a PC with a similar spec would cost about £1,200.

I'm very dubious about these Mac clones that everyone's talking about, but if someone built a machine with both PowerPC and 486 chips on the motherboard, then, on the showing of my DOS on Mac card and the reaction it gets from PC owners, it might just be a winner.

Soon you won't have to choose, you'll be able to have both. And your car's roof rack may even be produced with the aid of a Mac. **MF**

DOS ON MAC

There are DOS On Mac Cards to fit the Quadra 610, 650, 660AV, 700, 800, 900 and 950, and the Centris 610 and 650. More cards are expected soon. Expect to pay about £670 for 486DX2/66 chip version. For more details contact the UK distributor, Perisol Technology, on 01734 776556.

The Apple DOS Compatibility Card (see News MACFORMAT 20) will be available shortly for the PowerMac 6100.

Pentium Simulator

MACFORMAT's giving you the chance to experience all the fun of a PC with the Pentium Simulator, which is free on MACFORMAT's cover disk this month. For more information turn to page 12.

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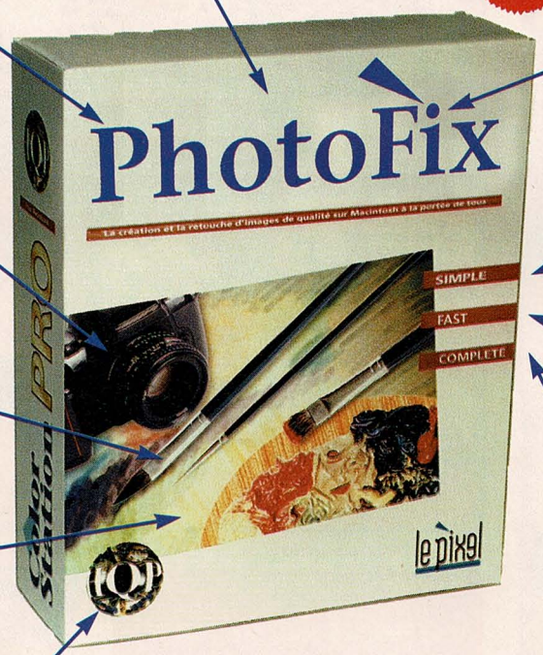

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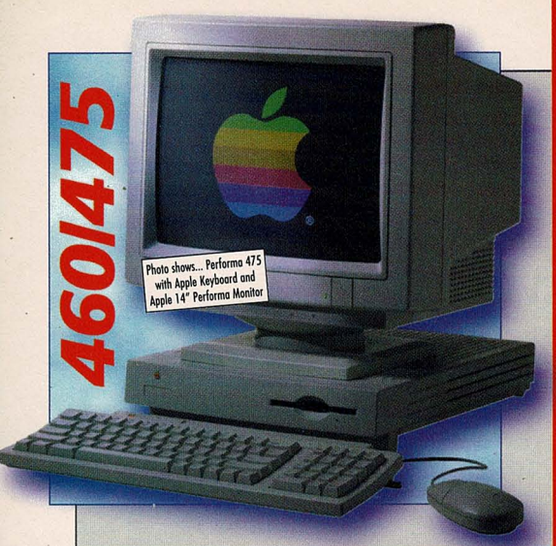

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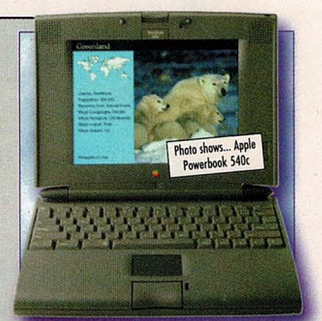

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**DEFERRED PAYMENT PLAN* FOR PERSONAL INDIVIDUALS VISITING OUR SHOWROOM FOR A LIMITED PERIOD - PAY A MINIMUM OF 10% DEPOSIT NOW, THEN NOTHING MORE FOR 5 MONTHS! During that period you can settle IN FULL (without any finance charges) or continue your agreement with normal interest arrangements (ie. Direct Debit APR 27.8%/2.07% per Month - Payment Book 32.4%/2.37% per Month). And... for the first 5 months you'll also receive FREE LIFE COVER. Written details/quotations available on request. *Agreement subject to status. Please contact us prior to your visit for details of easy application requirements.*

Powermacs

Photo shows... Power Mac 6100 with Apple Extended Keyboard and Apple 14" Audio Vision Monitor

Prices for CPU only. Don't forget your Keyboard & Monitor

Mac OS + Apple for Windows

SEE BELOW* FOR NEW HARDWARE DOS CARD 486 PC COMPATIBLE 6100/60s, and remember, ALL MACS/POWERMACS CAN RUN WINDOWS IF REQUIRED VIA SOFTWINDOWS

GH MONITOR MADNESS...

Monitor Model	Price
Apple 14" Performa Plus (.28)	£209 (£246)
Apple 14" Trinitron (.26)	£259 (£305)
Apple 14" AudioVision (.26)	£345 (£406)
Apple 15" MultiScan (.28)	£299 (£352)
Apple 17" Trinitron MultiScan (.25)	£699 (£822)
Apple 20" Trinitron Multiscan (.26)	£1399 (£1644)
Sony 15" SFI Trinitron MultiScan (.26)	£345 (£406)
SuperMac 17" Trinitron MultiScan (.25)	£649 (£763)
SuperMac 20" Trinitron Multiscan (.26)	£1199 (£1409)

630 TV & VIDEO CARDS

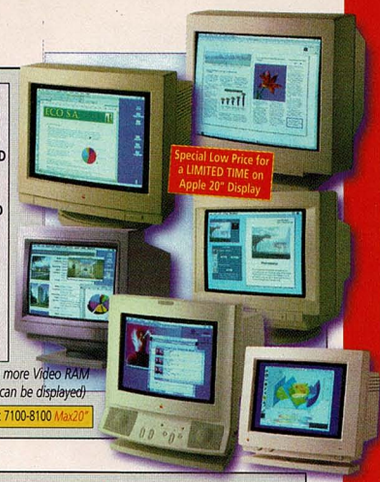
VIDEO-IN CARD £90 (£106)

VIDEO-IN AND TV TUNER CARD £210 (£247)

VIDEO-OUT CARD £210 (£247)

NB. Shown below are the sizes of monitors individual Macs can run (some require more Video RAM (VRAM) for this and/or in order to increase the Maximum number of colours that can be displayed)

LC III/Performa 450-460-630/Quadra 630/Powermac 6100 *Max 17"* Performa 475/Powermac 7100-8100 *Max20"*



Special Low Price for a LIMITED TIME on Apple 20" Display

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"As a family business established in 1955, we've supplied computers for the past 12 years. With over £32 million worth of units sold, and more than 215,000 happy customers, our trading record is second to none! Why don't you try us for your next Apple and find out why we are the UK's Favourite Apple Reseller?"

Giles Harwood - Managing Director

HARWOODS GOLD SERVICE PEACE OF MIND

BUILD YOUR OWN POWERMAC SYSTEM - WITH GH CPUs

POWERMACS FROM ONLY... £1199 (£1408.83 inc. VAT)

GREAT PERFORMANCE AND PRICE ON THE RANGE OF POWERMACS FROM GH

Powermacs make your workload fly! Choose from... the entry level 6100, mid-range 7100, or THE WORLDS FASTEST DESKTOP COMPUTER - the 8100!

GREAT DEALS ON ENTRY LEVEL POWERMAC 6100s

	RAM	Hard Drive	CD	Price
6100/66	8Mb	350Mb		£1199 (£1409)
6100/66 CD	8Mb	350Mb	✓	£1349 (£1585)
6100/60 + PC*	8Mb	250Mb		£1610 (£1892)
6100/60 CD + PC*	8Mb	250Mb	✓	£1725 (£2027)

** 6100/60 PC Systems include 486 DX2 66MHz hardware card & MS DOS 6.2 (Windows may be purchased separately)*

GH BONANZA ON MID-RANGE POWERMAC 7100s

	RAM	Hard Drive	CD	Price
7100/66 DL	8Mb	350Mb		£1447 (£1701)
7100/80	8Mb	350Mb		£1875 (£2204)
7100/80 CD	8Mb	700Mb	✓	£2178 (£2560)
7100/80 CD-AV	16Mb	700Mb	✓	£2293 (£2695)

Powermac 7100/66 DL, 8/350 with 14" Display & Keyboard...

POWERMAC 7100/66DL... WHILE STOCKS LAST £1129 (£1326.58 inc. VAT)

GH SPECIAL LIMITED OFFER - SAVE £££££££££'s

THE WORLD'S FASTEST DESKTOP COMPUTER... The Apple Powermac 8100/110... available at GH LOW prices!

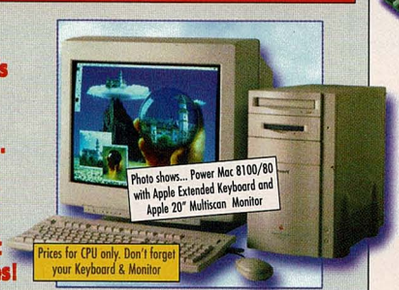

Photo shows... Power Mac 8100/80 with Apple Extended Keyboard and Apple 20" Multiscan Monitor

Prices for CPU only. Don't forget your Keyboard & Monitor

SAVE WITH GH ON POWERMAC 8100/100s

	RAM	Hard Drive	CD	Price
8100/100	8Mb	700Mb		£2549 (£2996)
8100/100 CD	16Mb	700Mb	✓	£2935 (£3449)
8100/100 CD-AV	16Mb	1000Mb	✓	£3190 (£3749)

THE WORLD'S FASTEST! - POWERMAC 8100/110

	RAM	Hard Drive	CD	Price
8100/110 CD	16Mb	2000Mb	✓	£4169 (£4899)

"Confirm you're getting the BEST DEAL - call those friendly people at the UK's FAVOURITE DEALER!"

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BUILD YOUR OWN MAC SYSTEM - WITH GH PERFORMA CPUs

PERFORMA CPUs FROM... £444 (£797.83 inc. VAT)

GH Performa 460/475/630 CPUs are supplied with System Software, PC Exchange, At Ease, Tutorials, System Software, System Manual, Claris Works 2.1 Software Suite (inc. Word Processor, Database, Spreadsheet, Draw, COMMS and Graphing) - TOTALLY FREE OF CHARGE.

Special pre-loaded software with Intro Documents

Model	Price
Performa 460 - 4/160	£444 (£522)
Performa 475 - 4/250	£595 (£700)
Performa 475 - 8/250	£674 (£792)
Performa 630 - 4/250	£749 (£880)
Performa 630 - 8/250 CD	£879 (£1033)
Performa 630 - 8/350 CD-TV	£1079 (£1268)

Prices for CPU only. Don't forget your Keyboard & Monitor

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ORDER HOTLINE... 01-773-836781

VISA DELTA

GH ESSENTIALS PACK

High Quality Mouse Mat
10-TDK DSHD 3.5" Disks
Mouse Mechanic Tool
Disk Head Cleaner Kit

£18 (£21.15 inc. VAT)

MACINTOSH UPGRADE - CHIPS

RAM - 4Mb SIMMS	£115 (£136)
RAM - 8Mb SIMMS	£219 (£258)
RAM -16Mb SIMMS	£359 (£422)
Powermac 256K Cache	£159 (£187)

MACINTOSH UPGRADE - BOARDS

LC II/III to LC 475 Board	£359 (£422)
LC 475/630 to Powermac Board	£429 (£505)
LC 630/P 630 FULL 68040	£309 (£364)
Powermac 6100 PC 486 DX2 66MHz DOS Card Collection/fitting/delivery add	£399 (£469) £30 (£36)

MACINTOSH KEYBOARDS

Apple Design Keyboard	£79 (£93)
Apple Extended Keyboard	£139 (£164)
Apple Adjustable Keyboard	£165 (£194)

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BY POST or FAX: When ordering include your name, address and preferably a contact phone number with your order requirements. If charging a credit/debit card include its number and expiry date (and issue number with Switch cards).

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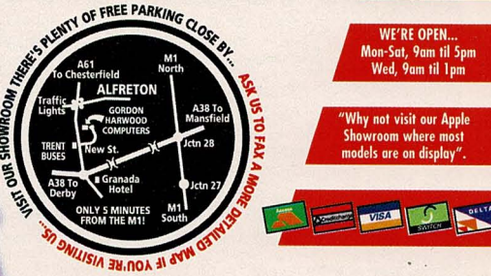

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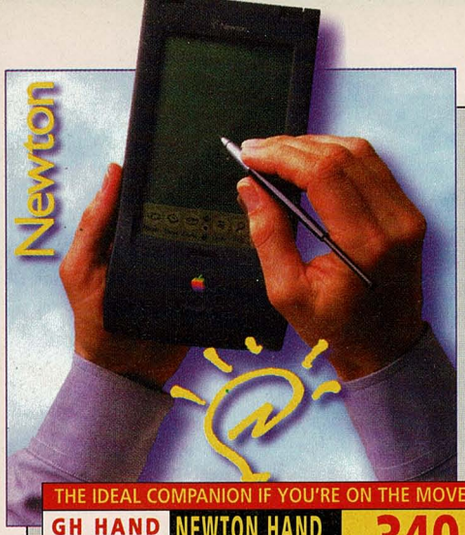
(AND FOR PERSONAL CALLERS, 10% DEPOSIT WITH NOTHING MORE TO PAY for 5 Months!)*

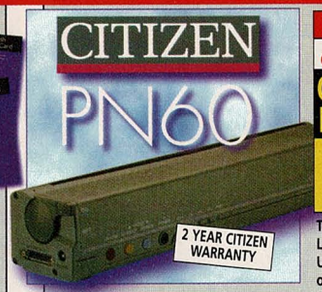
see details below



THE IDEAL COMPANION IF YOU'RE ON THE MOVE

GH HAND HELDS NEWTON HAND HELDS FROM... **£340** (£399.50 inc. VAT)

NEWTON 110 -1Mb.	£340 (£400)
NEW... NEWTON 120 - 2	£399 (£469)
1Mb Storage Card	£42 (£50)
2Mb Storage Card	£94 (£111)
Connection Kit - Mac	£51 (£60)
Connection Kit - Windows	£51 (£60)
Leather Carrycase - 100/Original Message Pad	£34 (£40)
Leather Carrycase - 110/120	£42 (£50)
Battery Pack Wall Recharger inc. Battery - 100	£34 (£40)
Mains a/c Charging Station inc. Battery -110/120	£47 (£56)
Nicad Battery - 110	£14 (£17)
Nicad Battery - 100/Original Message Pad	£13 (£16)
Tapworks	£51 (£60)
Graffiti	£39 (£46)
GoFigure (15 Calculators)	£25 (£30)
Dell Crosswords	£30 (£36)
Notion	£42 (£50)
Dyno Notepad	£38 (£45)
Filepad	£81 (£96)
Columbo's Mystery Capers	£25 (£30)
Day Timer & Expense Pack	£60 (£71)
Personal Time Billing	£68 (£80)



PORTABLE PRINTER

GH MACPAC EXTRA

CITIZEN PN 60 PRINTER ONLY...

£229 (£269.08 inc. VAT)

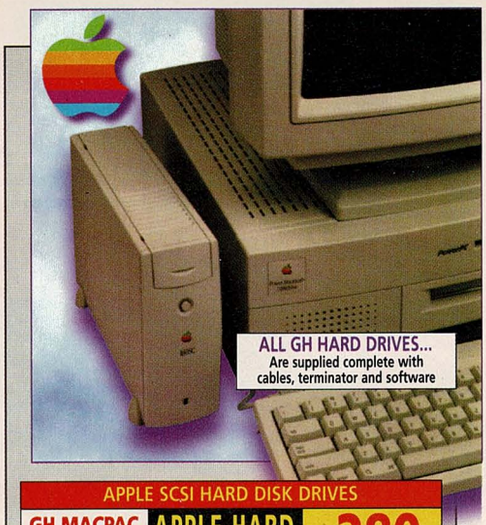
This IS the World's SMALLEST, LIGHTEST portable printer! Use on ANY Mac, Powerbook or even Newton with Stylewriter II commands.

- Laser Quality Thermal Transfer Dot Matrix
- SMALL 10" x 2" (2.7" with Optional Battery) x 1.9"
- Weighs JUST 1lb (500g)
- Upto A4 size paper @ 2ppm
- Uses plain paper, envelopes, labels, even transparencies
- Prints 50 shts/battery charge

ACCESSORIES/CONSUMABLES

Rechargeable Battery	£35 (£42)
Black Ribbon	£6 (£7)
Single Colour Ribbon	£10 (£12)

PN60s are supplied with all cables and require System 7 or above



APPLE SCSI HARD DISK DRIVES

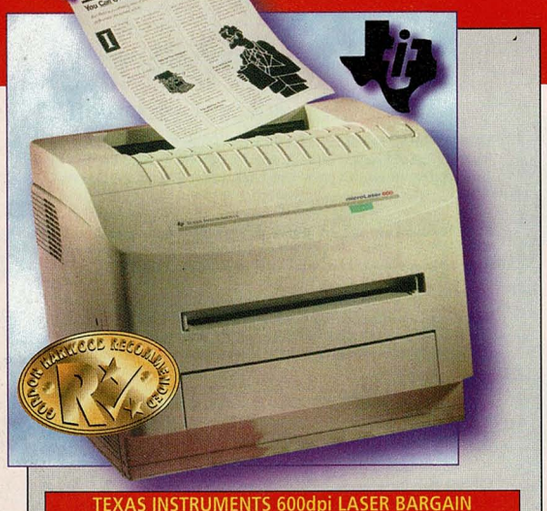
GH MACPAC EXTRA APPLE HARD DRIVES FROM... **£280** (£329.00 inc. VAT)

Designed & Styled to match your Mac System

HD Specification	Price
325Mb. External Hard Drive	£289 (£340)
500Mb. External Hard Drive	£339 (£399)
1000Mb. External Hard Drive	£649 (£763)

QUANTUM SCSI HARD DISK DRIVES

INTERNAL SCSI		EXTERNAL SCSI	
HD Spec	Price	HD Spec	Price
365Mb.	£149 (£176)	365Mb.	£229 (£270)
540Mb.	£179 (£211)	540Mb.	£259 (£305)
730Mb.	£199 (£234)	730Mb.	£279 (£328)
1000Mb.	£449 (£528)	1000Mb.	£539 (£634)
2100Mb.	£779 (£916)	2100Mb.	£859 (£1010)



TEXAS INSTRUMENTS 600dpi LASER BARGAIN

GH MACPAC EXTRA 600dpi LASER PRINT FROM... **£637** (£748.48 inc. VAT)

GH VALUE 600dpi QUALITY LASER PRINTER

If you've been waiting for the expense of 600dpi Laser Printing to **COME DOWN**, but not at the cost of quality - your wait is over! The new TEXAS INSTRUMENTS MICROLASER 600 could be the answer to your dreams with its feature packed specification...

- A4 Paper Size • 250 Sheet Paper Tray
- True 600 x 600 dpi Resolution • Fast 5ppm Printing
- Adobe Postscript Level 2 • PCL 5 Emulation
- Energy Conservation Feature Built-In
- Autosensing Connections for MAC or IBM Compatibles
- RISC Processor • 2/4Mb. RAM (max 10Mb.)
- Options to add either a 150 Sheet Feeder or Ethernet

TI Microlaser 600 Model...	Price
Microlaser 600 with 2Mb. RAM	£637 (£749)
Microlaser 600 with 4Mb. RAM	£765 (£899)

DESKTOP SCANNER

GH MACPAC EXTRA

SICOS 1200dpi SCANNER JUST...

£349 (£410.08 inc. VAT)

GH Special... SAVE £50! on previous price

INCLUDES FREE OCR AND IMAGE SOFTWARE

The SICOS scans at up to 1200dpi, comes with both EasyReader™ OCR (Optical Character Recognition) Software and ColorStation Pro LE-E™ RGB Image Manipulation Software (with Photoshop™ plug-in compatibility) and is supplied ready for use - complete with a SCSI cable and terminator. With a Sicos you to scan in modes of 16.7 million colours - lineart - halftones - 256 greyscales and the unit incorporates an automatic document feeder (with suitable paper types) and a dust cover. The Sicos has a small footprint and can actually scan faster than flatbeds!

Just Picture It... With a SICOS Scan You Can - At a LOW Price!

SCANNER SAVERS

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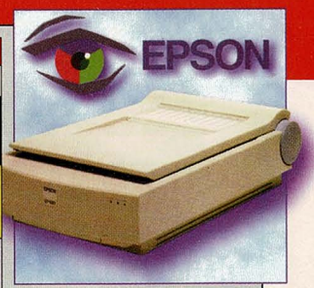
MAC SCANNERS STARTING AT...

£487 (£572.23 inc. VAT)



Epson Scanners include CUSP, 1st year on-site REPLACEMENT from distributor 'Customer Satisfaction Programme'

Scanner Model...	Price
GT 6500 - Including Photoshop LE & Omnipage	£487 (£573)
GT 6500 - Including FULL Photoshop 3.0	£646 (£759)
GT 8000 - No Software	£670 (£787)
GT 8000 - Including Photoshop LE & Omnipage	£612 (£719)
GT 8000 - Including FULL Photoshop 3.0	£765 (£899)
GT 9000 - No Software	£799 (£939)
GT 9000 - Including Photoshop LE & Omnipage	£895 (£1052)
GT 9000 - Including FULL Photoshop 3.0	£1060 (£1245)
Transparency Unit for GT6500/8000/9000	£418 (£491)

WRITEABLE CDs!!!

GH MACPAC EXTRA

PINNACLE RCD 1000...

£1379 (£1620.33 inc. VAT)

DON'T FORGET YOUR BLANK CDs

RECORDABLE CD MEDIA £21.23 (£24.95 inc. VAT)

CDs have replaced tape cassettes in the music world - recordable CDs are now taking over from tape in the computer world too. INTRODUCING THE NEW PINNACLE RCD 1000 - The best and most cost effective way to back up your valuable files! Each recordable CD can hold up to 680Mb. of fast random access data which works out at **AS LITTLE AS... 3p per Mb** - compare that to other storage media! RCD CDs are reliable with a 5 year shelf life specification. The RCD 1000 is supplied complete with back up mastering software, all cables, terminator and an easy guide manual.

Scanner Model...	Price
VISTA T630 - Including Photoshop LE	£499 (£587)
VISTA S6 - Including Photoshop LE	£714 (£839)
VISTA S8 - Including Photoshop LE	£850 (£999)
VISTA UCI 1260 - Inc. FULL Photoshop	£1075 (£1264)
VISTA POWERLOOK - Including FULL Photoshop	£2509 (£2949)

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720dpi COLOUR INKJET QUALITY PRINT!!!

GH MACPAC EXTRA — **EPSON STYLUS COLOUR JUST... £369 (£433.58 inc. VAT)**

GH have secured stocks of this exciting and revolutionary NEW HIGH QUALITY COLOUR INKJET PRINTER! Boasting an incredible 720dpi resolution max. output, the Epson Stylus Colour really IS unique! Take a look at magazine reviews to see the glowing reports about this printer. If you need THE ULTIMATE in LOW COST colour proofing devices - THIS IS THE ONE for you.

STYLEWRITER II

Mono 360dpi Inkjet Printer for budget priced laser-like quality output. Includes sheet feeder.

StyleWriter II **£199** (£234)

STYLEWRITER 2400 COLOUR

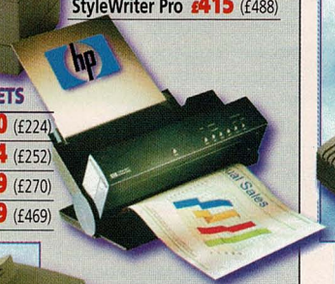
Excellent 360dpi colour output. Ideal for proofs etc.

StyleWriter 2400 Colour **£382** (£449)

COLOUR STYLEWRITER PRO

Fantastic 360dpi colour printer from Apple. Ideal for proofing work.

StyleWriter Pro **£415** (£488)



HP DESKWRITER INKJETS

HP320 - Mono 600 x 300dpi	**£190**	(£224)
HP320 - Inc. Sheet Feeder	**£214**	(£252)
HP520 - Mono 300dpi	**£229**	(£270)
HP560c - Colour 600 x 300dpi	**£399**	(£469)

GH LASER BARGAINS

GH MACPAC EXTRA — **APPLE'S OWN LASERS FROM... £449 (£527.58 inc. VAT)**

APPLE LASERWRITER PRINTERS

Personal LaserWriter 300 - 300dpi, 4ppm	**£449**	(£528)
LaserWriter 320 - 300dpi, 5ppm, Postscript Level 2	**£599**	(£704)
LaserWriter Select 360 - 600dpi, 10ppm, Postscript Level 2	**£1139**	(£1339)
LaserWriter 16/600 - 600dpi, 16ppm, Postscript Level 2	**£1599**	(£1879)

PRINTER CONSUMABLES

StyleWriter...		**HP DeskWriter...**	
I/II/Portable - Black Cartridge	**£14** (£16)	Black Double Cap. Cart.	**£21** (£24)
2400 - Black Cartridge	**£22** (£26)	Tri Colour Cartridge	**£24** (£28)
Colour Cartridge	**£24** (£28)		
Black Ink Tank	**£6** (£7)	**Toners...**	
Epson...		For Apple 300/320	**£51** (£60)
Stylus - Black Cartridge	**£17** (£20)	For Apple 360	**£81** (£95)
Colour Cartridge	**£30** (£35)	For Apple 16/600	**£90** (£106)

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The latest CADDYLESS CD from Apple that features double speed and multi session facilities.
Plays CD ROMs, Photo CDs & Audio CDs. Plugs directly into your Mac

CD 300E PLUS **£189** (£223)

GH CD SAVERS

GH MACPAC EXTRA — **APPLE CDs STARTING AT... £125 (£146.88 inc. VAT)**

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Plays CD ROMs, Photo CDs & Audio CDs. Plug into your Mac or DIRECT INTO your TV's SCART socket!

Power CD **£125** (£147)

APPLE QUICKTAKE CAMERA

Quicktake Mac or PC	**£439**	(£516)
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APPLE DESIGN SPEAKERS II

Simply plug into your Mac for some great sounds

Speakers II **£51** (£60)

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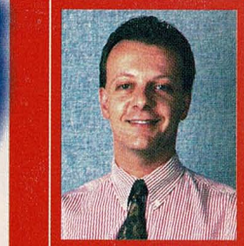
Pressure sensitive art pad - great for your designs

Wacom Tablet	**£140**	(£165)
Wacom Tablet & Dabbler	**£175**	(£206)



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Giles Harwood - Managing Director

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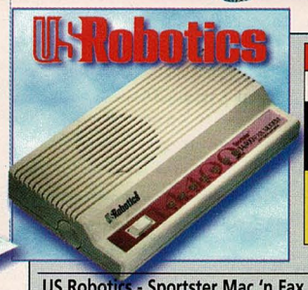


GH FAX MODEMS

GH MACPAC EXTRA — **US ROBOTICS MODEMS FROM... £145 (£170.38 inc. VAT)**

US Robotics - Sportster Mac 'n Fax (14400)	**£145**	(£171)
US Robotics - Sportster 288 V34 (28800)	**£230**	(£271)

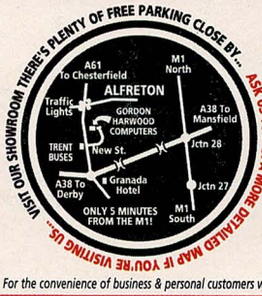
APPLE GEOPORT TELECOM ADAPTOR

If you own a Macintosh AV model or a Powermac the Geoport provides access to one of your computers built in features; a fully featured Fax Modem with send/receive capabilities operating at up to 14400 bps. Get your own Fax NOW!

Geoport Adaptor **£94** (£111)

GH ACCESSORIES ESPECIALLY FOR YOUR APPLE

10 - TDK 3.5" HD Blank Disks	**£7.66**	(£9)
50 - TDK 3.5" HD Blank Disks	**£34**	(£40)
3.5" Disk Head Cleaning Kit	**£3.40**	(£4)
GH Quality Mouse Mat	**£4.26**	(£5)
Essential Maintenance Mouse Mechanic Tool	**£5**	(£6)
Genuine Apple Ergonomic Desktop II Mouse	**£38**	(£45)



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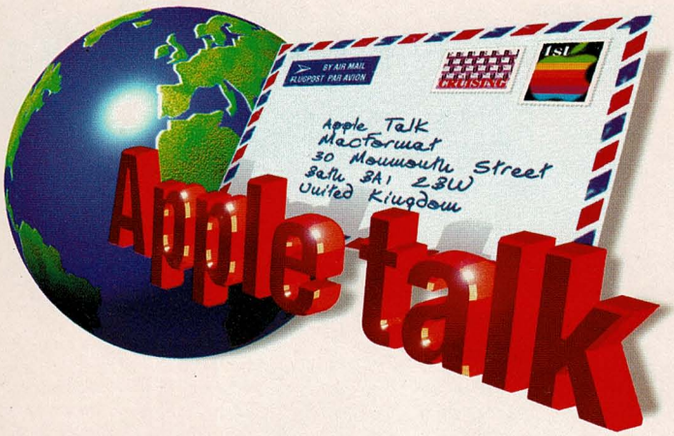

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Look, I'll come clean. It's naked bribery. We get sort of lonely up here in Future Towers, and your letters are our lifeline. Without them, this page would lose all its meaning and purpose. So we shamelessly tempt you with exclusive MACFORMAT binders, in the hope that you'll take the bait and write. Any lucid, well-reasoned observation on matters Macintosh will do, or perhaps a penetrating insight or two. Okay, how about a tip on a picture postcard?

Serving them right

Following on from your open letter in MACFORMAT 22 to Mr Dixon of the high street shops, I thought I'd share with you the following conversation that my partner had in one high street electrical shop.
My Partner: Excuse me, do you have any information on the computers you stock?
Blank Staring Youth: No.
Pregnant pause while youth stares blankly ahead.
My Partner: Well thanks anyway. Goodbye.
Exit Partner, never to return. (Until she forgets how truly awful the service is.)
But look on the bright side. If the assistant had been more helpful, we might have parted with £1,500 for whatever they were selling. Instead we bought MACFORMAT, learned about the market and found a much better deal elsewhere!
John Walmsley
Ipswich, via CIX

Must be a lesson to be learned there somewhere. By someone.

Don't do me any favours

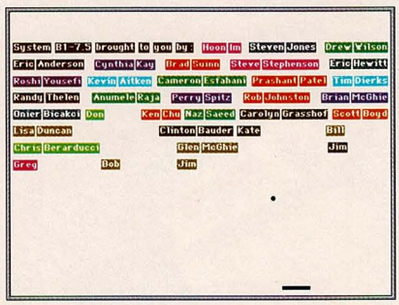
In MACFORMAT 20, Dave Porter complains that shareware authors make it too hard to pay the fees for their programs. He starts by relating the story of a shareware author who had asked to be sent cash, but no, says Dave, that's too risky. But risky for whom? If the software author is prepared to take his chances with cash through the post then that's *his* problem!

Dave then claims that it's too much trouble to go to his local bank and buy a small amount of US dollars at a small commission. I can almost imagine him saying it's too much bother to go down to the local supermarket, walk around the aisles picking up goods and wait in a queue to pay.

His answer to the problem is that the shareware author working in his spare time should get a fax machine and a credit card account. Apart from the assumption that most end users would be able to make use of this facility, if someone is prepared to charge just $5 to $25 for his work it is hardly going to be worth his while processing credit cards, and it's likely the banks would take the same view!

It is not simply a case of whether an author should institute methods of payment that might only suit some, but whether we are prepared to steal another individual's piece of work. We are not doing the author a favour by paying him for his software. On the contrary, he is doing us a service by providing reasonably priced products. Having to pay as little as $5 (plus bank charges) for software that you have had an opportunity to try out first is getting a bargain.
Bernard Osborne
London N8

I suppose one counter-argument must be that the easier shareware authors make it for people to pay, the more likely it becomes that they will pay. Come clean now: do you always do the right thing and send off the fee for the shareware you use?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Breakout returns to the Mac! But who are all these people really, and why are they on your screen...?

In defence of the Director

I thought your review of *Video Director* in MACFORMAT 21 was a harsh treatment of a piece of software I find very useful.

I am involved in directing and producing several theatrical productions a year. We usually arrange to have someone record our dress rehearsals and performances with a camcorder. Before I purchased *Video Director*, I had to spend hours with a camcorder and VCR getting the scenes together in the right order. I looked around for a better way of doing this but most of the solutions required megabytes of hard drive space and lots of other hardware beyond my Performa 460. Then a friend suggested I get hold of *Video Director*. For about £100, I am now able to produce videos for the cast and

THE ONLY GOOD NAZI-BLASTER...

You've got to admit, it's a pretty bizarre game that pits you against Hitler with sixguns blazing. But is *Wolfenstein* offensive?

In MACFORMAT 20 we published a letter from Nicola Beauman of London NW3 complaining that the demo of Wolfenstein 3D *which we had included on the previous issue's cover disk was offensive because it was 'grotesquely violent' and used 'the imagery of Nazi torturers'. We invited further comment.*

I think Nicola Beauman must have her lines crossed. *Wolfenstein 3D* is a superb game that follows through on the old 'good vs evil' theme. The player is given the task of destroying the Nazis – how on earth can this be seen as a 'bad' thing? It doesn't glamorise the Nazis in any way, it is straightforward and simple: they are evil and it is the player's role to eradicate that evil.

Maybe we should just concentrate on letting our children play games where they destroy innocent little creatures or carry out battles against futuristic foes that have done no harm? Which type of game breeds violence, and which one serves as a reminder of what is good and what is evil?

Let's keep this in proportion. It's only a game – a historical one, which only serves to remind us that the Nazi regime was totally evil. But we are given the opportunity and imaginary task of helping to destroy that evil. I don't suppose many fascists will want to buy the game – after all, they can't win and it certainly doesn't promote their warped and sick views.

My only quibble about the game is its extortionate cost. To buy the game from the States costs less than $20, but to buy it here costs over £35. Why??
Kelvin Lewis
Ipswich, Suffolk

I suppose if you've got to shoot things, it may as well be Nazis... Anyone else got strong feelings on the subject?

friends, with far cleaner cuts than I could achieve previously. If someone wants an additional copy of one of our productions, I can just dig out the camcorder tapes and press the 'make tape' button.

I understand the article was centred on DTV software, but did you really have to use the word 'rudimentary' where 'easy-to-use' would have done just as well? I would recommend *Video Director* to anyone who has a Mac and camcorder and wants to produce professional-looking tapes on a budget.

Esther Armstrong
Maidstone, Kent

If you think we've been unfair to a product you use, your views are always welcome.

Break out of the System

Did you know that System 7.5 has a little hidden game of *Breakout*? It can be found through *Simple Text*. Type 'secret about box', highlight those words and just drag them to the Desktop. Lo and behold... *Breakout*!

Tracey Paddison
Via CIX

It's true! The programmers behind System 7.5 added this little 'Easter egg' to immortalise themselves, though you'd be unlikely to find it without being told how. But no wonder the System takes up so many megabytes. What else do you suppose is hidden away in there...?

Restricted users?

In recent issues, some readers have said you shouldn't include demos on the MACFORMAT cover disks that won't run on older Macs. While I sympathise with people with inadequate Macs, I strongly object to not receiving any demo you think should go on the cover disk or CD. A demo's requirements are an indication of what systems are needed to run the full program. If nothing else, it will stop other similarly restricted users from going out and purchasing these programs when they might not run as well as they would like on their minimum systems. Also, with 8Mb of RAM needed to run almost anything that comes on a CD-ROM now, this is a painful situation that all users with less RAM will constantly encounter.

Rob Stafford
Adelaide, South Australia

Rob (this issue's token Australian) makes a fair point, but we will continue to try to offer cover disk programs that a wide range of Macs can run. We hope you'll understand when some kinds of program inevitably demand more – 3D rendering, for example, is very calculation-intensive and unavoidably needs lots of RAM. Your views and suggestions for cover disks are always welcome – just write to 'Diskcussion' at the usual address.

Seeing red...

In MACFORMAT's 'screen-shots' of the dialogue boxes in shareware applications, I have noticed that sometimes a letter of each option is underlined in red. Presumably, this is the letter you must press to execute that instruction, but I don't get that red underline when I install the same programs. What utility does this? I'd like a copy of it, as I am sick of reaching for the mouse every time a 'Yes/No/Cancel' dialogue box appears, with only one command highlighted.

Allan Myles
Dundee

The utility is called Keys! *and was included on the MACFORMAT 16 cover disks. Slightly updated versions have appeared on our cover CD-ROMs more recently. We've tried to avoid screenshots with the red underline showing because people have been confused by it (though my greatest objection is that it makes the Mac interface look like Windows...). The highlighted button in most dialogue boxes is* ***OK****, but as an alternative to mouse clicks, try* ***[command] N*** *for 'No' and* ***[command] [.]*** *(that is,* ***[command]*** *and the full stop key) for 'Cancel' – these are Apple-standard shortcuts, and most properly-programmed applications adopt them.*

Your number's up

I was very interested in your article in MACFORMAT 19 about accelerators for the Classic and LC. Could you also do something on Performas, in particular the 400, which I have? The main software I use is *QuarkXPress* – I have 8Mb of RAM and it runs okay, but I would like it to go faster.

Paul Hunt
via CIX

The Performa 400 is internally identical to the LCII, so an LC accelerator is *what you want. For reference, a Performa 200 = a Classic II, a Performa 450 = an LCIII, a 475 = an LC475, a 630 = an LC630, and a Performa 600 = a Mac IIvx. The newer Performa 460 is actually a souped-up LCIII, with the same basic chip inside but running at 33MHz, not the LC's 25MHz. Watch for details of accelerators for Quadras and other Macs in MACFORMAT soon.*

Fabulous Furry Bargain

When I saw your *Fury of the Furries* review in MACFORMAT 20, I rushed out to buy it and to my surprise I found it in a computer games shop in Bristol for the incredible price of £10! When I got home I tried it out and to my surprise it wasn't a cheap copy or a demo disk. A full beautiful game was mine, for only ten quid instead of £40. Is that a bargain game or what?

Sam B Fisher
Knowle, Bristol

Certainly sounds like it to me.

More winners: Mr M J Fry of London NW4 sent us this card of Lee Meriwether as Catwoman, ideal for our comics issue, and Ruben Eliassen of Oslo, Norway, created his own card on his PowerMac 7100/66 with 32Mb of RAM and 250Mb hard disk. Lucky swine. Remember, whenever you write to MACFORMAT an eyecatching postcard could win you a binder too!

How to get in touch with MacFormat

- Our address for letters is on page 36 – the shorter your letter, the better its chances of being printed. Longer letters may be published in our regular 'Soapbox' section (on page 132 this month). If you'd like your letter included in the 'Readers' Corner' on our CD-ROM, send it in as a *TeachText* document on a disk marked 'MACFORMAT Readers' Corner'. Include your name and address (but omit the defamation and obscenity please), and note that we can't return your disk.
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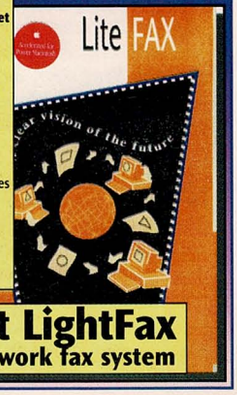

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Anti Glare Screens (eases eyestrain) ..... from £35.00
Security Systems (is your Mac vulnerable to theft?) ..... from £29.00
Tilt & Swivel stands (for Classics and monitors) ..... from £24.00
Mac Carry Bag (Plus, SE, Classic) £55.00

PROGRAMMING

Frontier (first Finder level scripting system for the Mac) £295.00
HyperCard 2.2 (new version, more power) £95.00
Metrowerks Code Warrior (Compiler for 68k code or P.Mac native) ..... from £65.00
Symantec C++ (best object oriented programming tool) £279.00
SuperCard 2.0 (more powerful than HyperCard) £410.00
Think C 6.0 (the leading Mac app development tool) £159.00
Think Pascal 4.0 (excellent developer level compiler) £139.00
FutureBasic (far and away the best Basic for Mac) £125.00

EDUCATION

UP TO 12 YEARS

Fine Artist (great fun paint program) £35.00
Kid Desk (desktop for kids, protects your own data) £29.00
KidsTime (5 learning programs for the 3 to 7 year old) £32.00
KidsMath (takes kids from counting to arithmetic) £32.00
KidPix II (wonderful paint program with sound effects) £34.00
Launch Pad (animated desktop, secures your files) £35.00
NumberMaze (award winning arithmetic tutor) £39.00
Peter Pan (the eternal favourite) £27.00
ReadingMaze (letter recognition to sentences) £39.00
Spelunx (brilliant game-like learning environment) £29.00
Storybook Weaver (build your own stories) £23.00
Swamp Gas Europe (geography learning game) £25.00
Yearn to Learn: Peanuts (basic learning skills) £37.00
Yearn to Learn: Snoopy (5-9 age group learning skills) £39.00

FROM 10 YEARS UP

Visions (detailed astrological horoscopes and charts) £29.00
Creative Writer (DTP for kids) £35.00
EarthQuest (a new type of multi curricular learning) £34.00
MacGlobe (complete world info, maps. Essential) £39.00
Decimals & Fractions Maze (helps older kids) £39.00
Typing Instructor (good training from basics to touch) £25.00
Voyager Astronomy (fascinating desktop planetarium) £105.00
Where in World is Carmen DeLuxe (geography based) £49.00

Special low Education prices are available on some products, including Microsoft, Claris and others, to authorized educational establishments with Educational Purchase Orders.

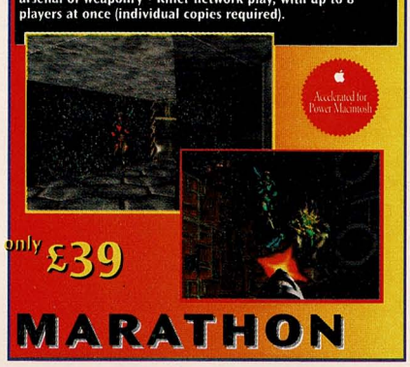
CD ROM

GENERAL/GAMES

CD ROM Toolkit (speeds up CD access) £59.00
7th Guest (an incredible real time 3D adventure) £35.00

AT LAST - IT'S HERE

Prepare for total carnage. Marathon is possibly the hottest game to ever hit the Mac and includes features such as: • Real Time 3D graphics (up to full 640x480 screen) • Active panning stereo sound with a QuickTime 2 soundtrack • Interactive lighting effects ---flashing lights, depth-cueing, even machine gun bullets illuminate the darkness •Huge arsenal of weaponry • Killer network play, with up to 8 players at once (individual copies required).



A Hard Day's Night (The Beatles Movie on CD) £29.00
Ancient Lands (multimedia history) £39.00
Battle Chess (full colour animated Chess Game) £35.00
Beethovens 9th (the symphony and all about it) £65.00
BMUG (huge collection of public domain and shareware) £29.00
David Bowie - Jump (pop culture goes interactive) £29.00
How God Makes God (ingeneous spiritual guide) £25.00
Iron Helix & Dark Seed (fantastic space/adventure bundle) £25.00
Legend of Kyrandia (journey through magical lands) £29.00
MYST (magical mystery adventure) £35.00
"Prince" (music and multimedia from the great one) £35.00
Return to Zork (multimedia adventure game) £35.00
Rebel Assault (Star Wars like game - brilliant) £35.00
Theme Park (create the best theme park ever!!) £34.00
Xplora (Peter Gabriel's amazing multimedia CD) £29.00

EDUCATIONAL

Arthurs's Teacher Trouble (interactive story book) £29.00
Arthurs's Birthday (more Arthur) £35.00
Dinosaurs (the "must have" CD of the year) £45.00
Grandma and Me (delightful kids story) £29.00
Harry and the Haunted House (the new best seller) £34.00
KidPix Studio (KidPix plus animation) £35.00
Learn to Speak French (aah... learn to speak French) £115.00
Math Workshop (math tutoring 5-12 age group) £34.00
Peter and the Wolf (interactive fairy tale) £29.00
Ruff's Bone (adventures with Ruff the dog) £35.00
Tortoise and the Hare (well....) £29.00
The Journeyman Project (amazing 3D adventure) £45.00
Thumbelina (interactive fairy tale) £29.00
Wallobee Jack (wonderful interactive kids cartoon) £27.00

REFERENCE

3D Atlas (simply wonderful) £49.00
Art Gallery (Microsoft's tour of the National) £39.00
Book Shelf (superb CD ROM for everyday reference needs) £75.00
Cinemania (19000 movie reviews and more) £39.00
Distant Suns (astronomy based cd) £65.00
Dictionary of the Living World (award winning) £29.00
Encarta (fantastic multimedia encyclopedia) £79.00
Groliers Encylopaedia (21 volumes, 9 million words!) £89.00
Halliwells (the famous film encyclopaedia on CD) £25.00
How Computers Work (excellent guide to technology) £40.00
Jupiter (photos of the comet impact) £26.00
Macbeth (the Scottish Play) £65.00
Musical Instruments (Microsoft's excellent entry) £39.00
Oxford English Dictionary (the whole thing on CD ROM) £425.00
Red Shift (superb astronomy program) £49.00
Shakespeare Complete Works (at your fingertips) £19.00
Small Blue Planet (pictures, geography of the planet) £49.00
Star Trek Interactive Tech Manual (tour de Enterprise) £35.00
Warplanes (an interactive history) £45.00
Wild Blue Yonder (US fighter planes, stunning) £35.00

MUSIC

EZ Starter Kit (MIDI interface, EZ Vision, book) £175.00
Concertware Pro (composer and player) £189.00
Practica Musica (teaches music theory and ear training) £75.00
SongWorks (interactive music composition) £75.00
Super Studio Session (8 voice composer and player) £69.00
MIDI Interface £59.00

UTILITIES & DA's

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At Ease (secure Finder replacement) £35.00
Conflict Catcher II (INIT manager and more) £49.00
CDU (excellent collection of Desktop utilities) £49.00
DiskDoubler (fast file compression) £39.00
DiskDoubler Pro (DiskDoubler,AutoDoubler,CopyDoubler) £59.00
Exposure Pro (screen dump utility with paint tools) £82.00
First Things First (alarms, reminders, to do's) £45.00
Hard Disk Toolkit (the best formatter and checker) ..... from £59.00
InitPicker 3.0 (choose to use or disable your startup Inits) £39.00
MacTools Pro 4.0 (disk safety and protection utility) £79.00
Now Up-To-Date (calendar and reminder system) £65.00
Norton Utilities 3.1 (best selling utilities package) £79.00
Now Utilities 5.0 (suite of essential utilities) £65.00
PopUpFolder (view folder contents with submenus) £30.00
QuicKeys 3.1 (macro maker, time saver utility) £85.00
QuickDex II (lightning fast DA database, essential) £32.00
RAMDoubler (actually doubles your available RAM!) £55.00
Stacker (doubles your disk capacity) £69.00
Stuffit DeLuxe (famous file compression program) £59.00
Suitcase 2.14 (manage your font menus) £35.00
WindoWatch (logs time usage of windows) £85.00

SECURITY

Citadel (lock your info from prying eyes) £59.00
DiskGuard (control access to your hard drive) £69.00
Empower (file & data security) ..... from £120.00
MacPrefect (secures most aspects of the Finder) £30.00

SCREEN SAVERS

After Dark 3.0 (famous screen saver with many modules) £26.00
Disney Screen Saver (simply magical) £27.00
Ultimate Star Trek (screen saver and posters bundle) £39.00
The Far Side (Larson at his best) £29.00
The Flintstones (cartoon, movie and now...) £19.00
The Simpsons (irreverent humour) £29.00
Underware (humorous screen saver) £25.00

BACKUP & VIRUS PROTECTION

DeskTape (treats DAT as if it were a 2Gb drive) £225.00
Personal Backup (best value backup on the market) £35.00
Redux Deluxe 2.51 (powerful floppy backup) £49.00
Retrospect 2.1i (most sophisticated archival backup) ..... from £145.00
SAM 4.0 (Symantec's anti virus utility) £49.00
Virex 5.0 (best virus tracer & eradicator of all) £59.00

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730Mb				£269.00
1000Mb	£649.00	£575.00	£625.00	£425.00
2000Mb		£1075.00	£995.00	£849.00
4000Mb			£2125.00	£1845.00

128Mb Optical Drive £575.00
230Mb Optical Drive £675.00
D2 88Mb Syquest Drive £270.00
D2 200Mb Syquest Drive £399.00
2Gb DAT Drive £875.00
44Mb Syquest Cartridge £32.00
88Mb Syquest Cartridge £36.00
200Mb Syquest Cartridge £55.00

ENTERTAINMENT

ARCADE

✔Best Sellers Pack (Hellcats, Spectre, SuperTetris) £32.00
✔Crystal Quest 2 (Britain's favourite game) £22.00
✔Crystal Crazy (sequel to Britain's favourite game) £34.00
✔Deliverance (hack and slash) £29.00
➢Fury of the Furries (Nintendo style platform game) £25.00
✔Lemmings/Oh No! More Lemmings Bundle £22.00
➢Marathon (prepare to meet thy "Doom") £39.00
➢PegLeg (totally addictive invaders style game) £39.00
✔Prince of Persia II (more and better, can you resist?) £29.00
➢Sensory Overload ("Doom" for the Mac) £35.00
✔Theme Park (create the best theme park ever!!) £34.00

SIMULATIONS

✔Civilisation (create your own) £29.00
➢Chuck Yeager's Air Combat (fly with Chuck) £34.00
✔Crystal Caliburn (classic pinball game) £32.00
➢F/A18 Hornet (from the creators of Hellcats) £49.00
➢Flying Nightmares (strategy and flight sim in one) £22.00
✔Ferrari GP, Fokker Triplane, P51 Mustang Bundle £29.00
➢Best Sellers (Hellcats, Tetris, Spectre Bundle) £32.00
➢Hellcats Mission Disk (8 more missions) £25.00
➢Korean Crisis (mission disk for F/A18) £32.00
✔Microsoft Flight Simulator (serious, realistic, accurate) £35.00
➢Out of the Sun (dogfight in three WWII battles) £22.00
✔Pathways into Darkness (kill the evil maze monsters) £39.00
✔PGA Golf II (far and away the best Golf game) £29.00
✔Links Pro Golf (so realistic you'll think you're there!!) £34.00
✔Populous II (want to play God?) £29.00
✔Powermonger (can you rule the world?) £29.00
✔Sim City 2000 (design and run your own city) £29.00
✔Syndicate/Populous I (control the world) £34.00
✔Sim Classics (Sim Life, Ant and City in one bundle) £29.00
✔Theme Park (create the best theme park ever!!) £34.00

ADVENTURES

✔Battle of Britain (what can one say) £37.00
✔Lost Treasures of Infocom (bargain bundle of adventures) £22.00

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✔Battle Chess (animated and powerful game) £25.00
✔Bridge (from novice to advanced playing levels) £24.00
✔Chess Champion (best Chess game) £25.00
✔Eric's Ultimate Solitaire (a dozen patience games) £35.00
✔Power Poker (dozens of games) £29.00
✔Shanghai II (great graphics, addictive brain teaser) £17.00

KEY ✔ works on most Macs, ➢ Colour Macs only. Please check whether your chosen game is compatible with your Mac when ordering.

BOOKS & TRAINING

Top 20 best-selling books

1. Little Mac Book £14.99
2. Photoshop Wow Book £31.61
3. Macworld Photoshop Bible £26.99
4. The Macintosh Bible 5th Ed £34.99
5. The Quark Xpress Book £24.99
6. The Tao of Applescript £23.35
7. Design Essentials Illustrator/Photoshop £29.95
8. Using FileMaker Pro 2.0 ..... £25.95
9. Internet Starter Kit £27.50
10. Macworld Mac Secrets £36.99
11. Using Word 6.0 for the Mac £24.95
12. Resedit 2 Complete £28.95
13. PageMaker 5.0 for the Mac £22.95
14. The Mac is not a Typewriter £9.99
15. Complete HyperCard 2.2 3rd Ed £32.50
16. Using ClarisWorks £20.95
17. Macworld Networking Handbook £26.99
18. Macintosh C Programming Primer Volume II £22.95
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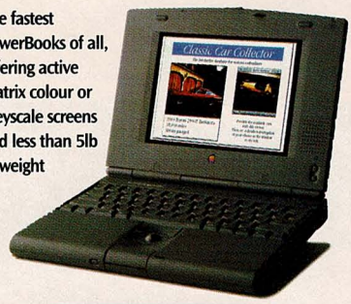

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Performa 475 8/250 ..... £735.00
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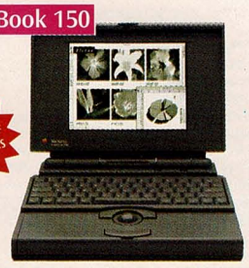

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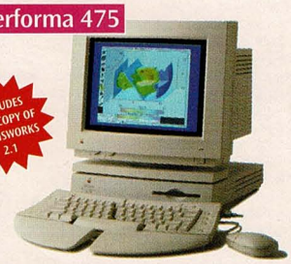

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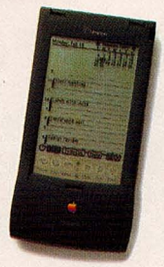

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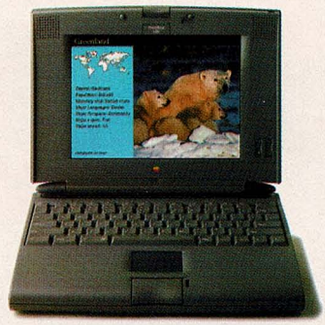
POWERBOOK 540c



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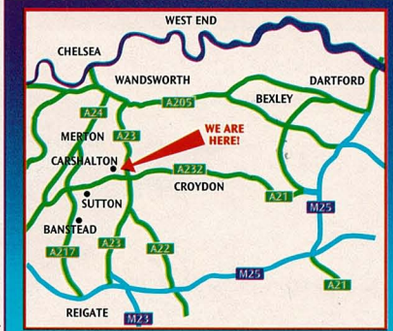

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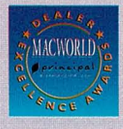

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Comics on the Mac!

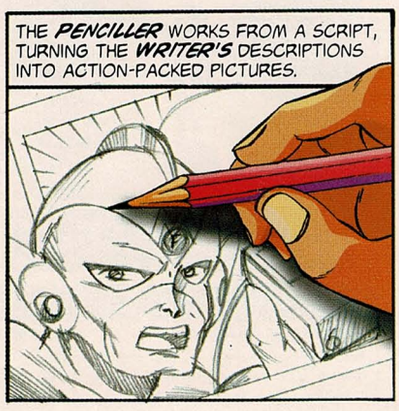
From *Superman* to *The Dark Knight Returns*, the comic-creating process had hardly changed in decades, with artists, colourists and letterers all working by hand. And then the Mac arrived on the scene...

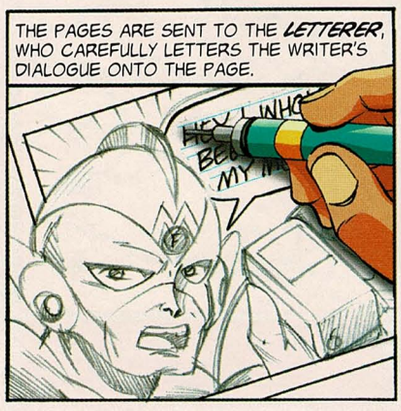
The comic book is alive with activity like few other artforms. Writers and artists can express their ideas in conjunction with distinctive visual styles, stamping their own visions directly on the printed page. Gotham, Mega-City One, Metropolis... you can visit teeming cities – and whole new worlds – that will never exist. Hundreds of comic titles appear every month, and the favourite characters from them go on to appear in films, TV productions or computer games.

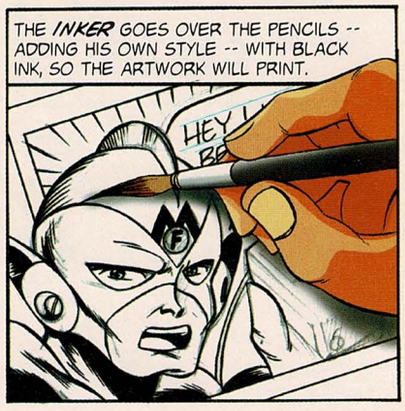
With its desktop publishing and graphics capabilities, the Mac has already dramatically transformed the way books and magazines are published. Now it's comics' turn. But where the change in the rest of publishing has been simply to make designing more polished and printing more efficient, the effect on comics promises to be more dramatic. The relationship between the people who create the story and the printed page is particularly close, because everything on the page has traditionally been done by hand.

As you'll see, the Mac is now changing

HOW TO MAKE COMICS THE HARD WAY

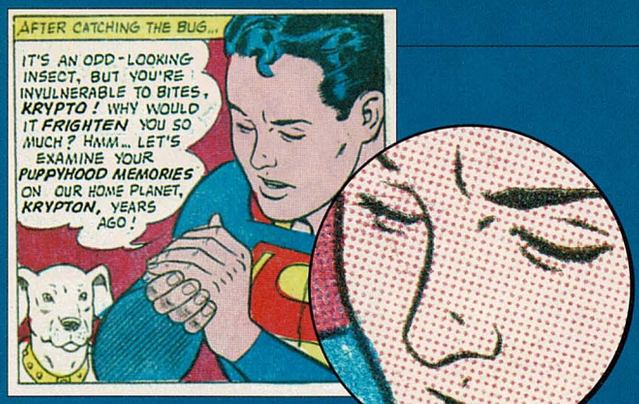






BETTER GRAPHICS

You want them? You've got them! Take a look our Virtual Reality special in MACFORMAT 20 for all the info on landscape generators. Pick up MACFORMAT 15 for reviews and how-to's covering top art programs and graphics tablets. And don't forget our 3D modelling series which began in MACFORMAT 21 – this issue it's on page 86. For details on how to obtain back issues, see page 108.


AFTER CATCHING THE BUG...
IT'S AN ODD-LOOKING INSECT, BUT YOU'RE INVULNERABLE TO BITES, KRYPTO! WHY WOULD IT FRIGHTEN YOU SO MUCH? HMM... LET'S EXAMINE YOUR PUPPYHOOD MEMORIES ON OUR HOME PLANET, KRYPTON, YEARS AGO!

Hand separations were cheap, but when you zoom in on this panel from a 1960s *Superboy* comic, it's easy to see how crude the colouring was.

The 1990s colourist is able to let fly with all sorts of hues and effects, as these pages from the *Martha Washington Goes To War* series show. And it's all thanks to the Mac.

the way artists create their work. They can do things they never could before, and comic artwork is the most sophisticated it's ever been. And the changes are slowly becoming even more striking. The Mac has the potential to turn the comic industry upside-down as it looks toward the next century.

Colour for sale

The biggest impact the Mac has had on comics so far is in colouring. Characters now act out their dramas across lush, carefully-shaded settings. Colourists have a wider choice of hues and effects than ever, and the confidence to know their ideas will be realised in print. There are even companies that do nothing but add colour to drawings.

The traditional method of colouring is to use hand separations, an inflexible method that it's difficult to achieve good results with. The art is photocopied and then sent to the colourist, who decides which colours will be used. Only a limited number of colours are available. The colourist's instructions are applied while the pieces of film to be used in printing are being made.

It's the printing firm and not the colourist who is responsible for making the films. Often it doesn't have a lot of time to do it properly. John Higgins has done colour work for DC Comics using this method: 'Before they had computer separations, they could have up to 12 layers cut out by hand at the printer stage. If they had 25% yellow, then 50% yellow, 75% and 100%, they had to have four different layers. It was obviously very time-consuming, and difficult to do graduated tone.'

Demos of *Comic Book Confidential*, *Maus* and *ComicBase* are on the CD-ROM

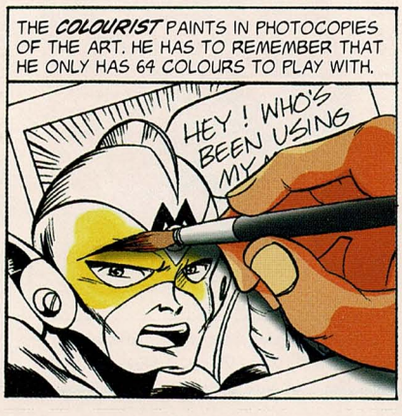
The previous best attempt at matching the richness of colour the Mac can offer was a process called blue-line. Basically, the line art was printed in pale blue ink on paper, and in black on transparent film. The colourist then painted over the pale blue image and positioned the film with the black line image on top.

The level beyond this was full colour painting, where the artist would create completely painted pages. The problem was that both of these methods were relatively expensive and could only be used

Continued on next page

THANKS TO...

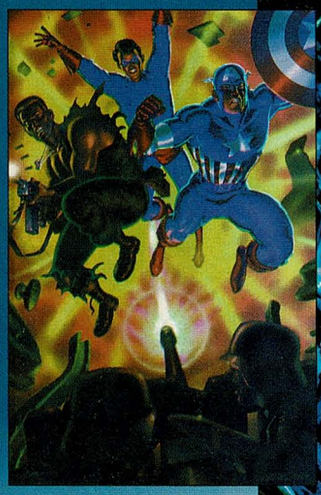
Judge Dredd is ©1995 Fleetway Editions Ltd. *Superboy* is ©1995 DC Comics. *Martha Washington Goes To War* is ©1995 Frank Miller and Dave Gibbons.

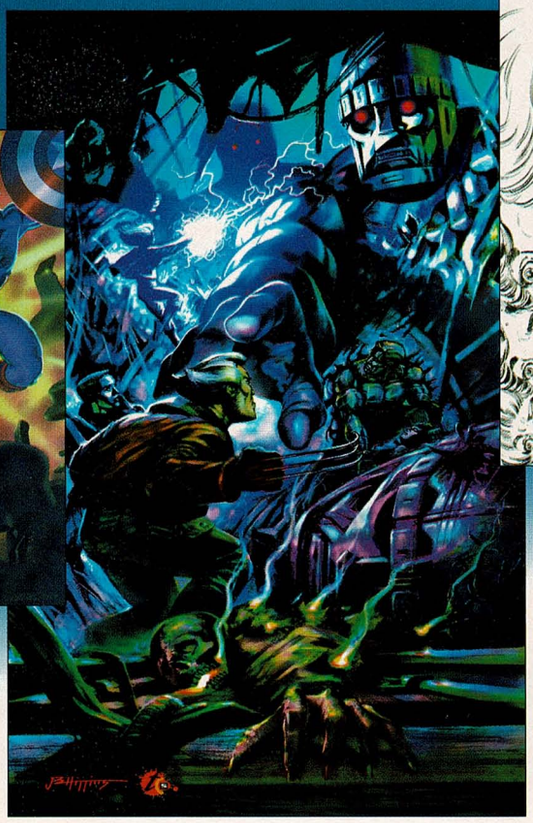

THE COLOURIST PAINTS IN PHOTOCOPIES OF THE ART. HE HAS TO REMEMBER THAT HE ONLY HAS 64 COLOURS TO PLAY WITH.
HEY! WHO'S BEEN USING

AND SO AN ACTION HERO IS BORN -- BUT NOW THE TRADITIONAL WAY OF MAKING COMICS FACES ITS GREATEST FOE YET!
HEY! WHO'S BEEN USING MY MOUSE!!

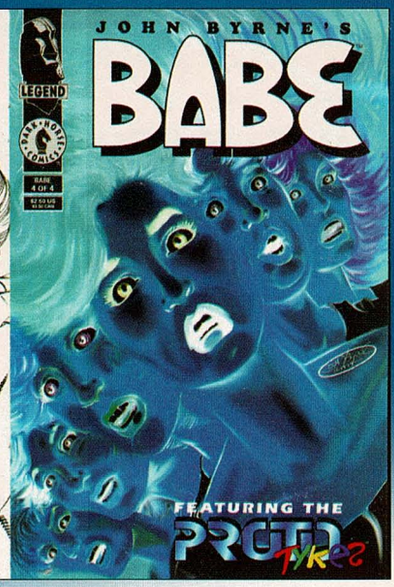
SUPER WHAT?

The term 'superhero' (without a hyphen) is a trademark of the Marvel Entertainment Group. 'Superhero' (with a hyphen) is a trademark of DC Comics. Yeah, right. So *we'll* call them super-people, shall we? Or extra-normals? Super-doopers? Mega-heroes...?





These pictures from *Marvels: Portrait Of A Universe* by Dave Gibbons (above) and John Higgins (right) show that it's easy to paint on the Mac – and you can change anything you like at a stroke.



John Byrne's cover for *Babe* (above) was created by drawing line art, then painting over it in *Photoshop*. Making the whole image into a negative would normally need expensive photographic trickery, but here it was simple.

on guaranteed money-making projects.

So for the colourist, understanding the way the final comic would be printed was, and still is, essential – it affects all the creative decisions he has to make. With its excellent graphic abilities, the Mac has attracted colourists like bees to honey. 'Getting into the Mac was really important,' says John Higgins. 'The way things are happening now is that full colour painting is too time-consuming, and they can get some superb effects now using computer colour.'

Just as important as the effects you can produce on the Mac is its flexibility. Dave Gibbons has drawn two series starring the character Martha Washington, the first painted by Robin Smith using blue-line and the second coloured by Angus McKie on the Mac. 'Robin is a very good colourist, but I'd sometimes think, "If only he'd done that sky pink rather than green. But it looks all right, and it'll take longer to repaint it than it did to do it in the first place."

'Now I can say to Angus, "I don't like that green sky", and he'll say, "All right then – what colour?" And you just click a couple of buttons and it will be that colour, complete with all the clouds and whatever you had there.'

Mac painting

Painting is still commonly used for covers and posters, and the Mac is also giving artists more options in this area. Dave Gibbons recently produced a Captain America painting on the Mac, and found it a lot easier to get started: 'I scan in a clean pencil drawing, which I did the same size as it's going to appear. I scan it in on a flat bed scanner, and use it as a basis for doing a rendering in *Photoshop*.' The program even borrows the concept of blue-line by electronically providing a template copy of the image to paint over.

Dave Gibbons says, 'A guy who's rather keen on my artwork phoned me up from the States and said, "Have you still got the original for the painting you did? I'd really like to buy it." And of course no original exists.

'The crucial thing is that he couldn't tell it had been done on the computer – it hadn't swamped my style or approach. I was using *it* rather than it using me.'

There are advantages to using an electronic line-drawing rather than a physical one, Dave Gibbons says. 'The traditional way that comics have been done is to be drawn in waterproof ink on what they call Bristol board – fairly stout card. The only reason you do that is you're going to put this in the mail and it's going to go to an editorial office. I don't need to tell you about editorial offices – there's cups of coffee, footprints... It's got to be durable.

"FULL-COLOUR PAINTING IS TOO TIME CONSUMING, AND YOU CAN GET SOME SUPERB EFFECTS USING COMPUTER COLOURING."
JOHN HIGGINS

'But now I just scan in the drawing

THANKS TO...
Marvels and *X-Men* are ©1995 Marvel Entertainment Group, Inc. *Babe* and John Byrne's 3D work are ©1995 John Byrne. *Cyber Reality Comics* is ©1995 Nils Osmar. *Shatter* is © First Comics. *Batman* is ©1995 DC Comics.

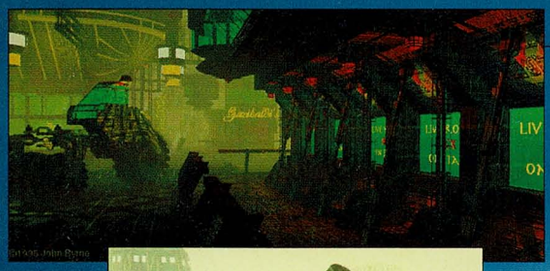
UNCANNY X-SCAN

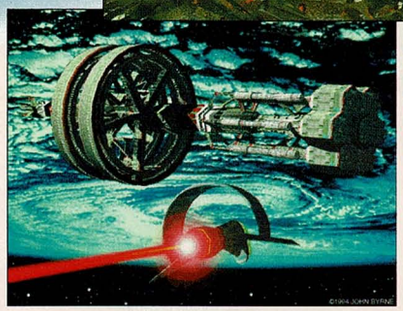
Wil Overton is the regular cover artist for Future Publishing's Super Nintendo magazine *Super Play* – and it's his excellent artwork in our introductory comic strip on page 42. He used to create his artwork in a similar way to the traditional method of making cels for animated movies – painting on the back of film with special paints. But now, as he tells MACFORMAT, the Mac has changed his life...

'My line art is scanned in at 300 dots per inch. It's done as a bitmap to give the image a hard edge.'

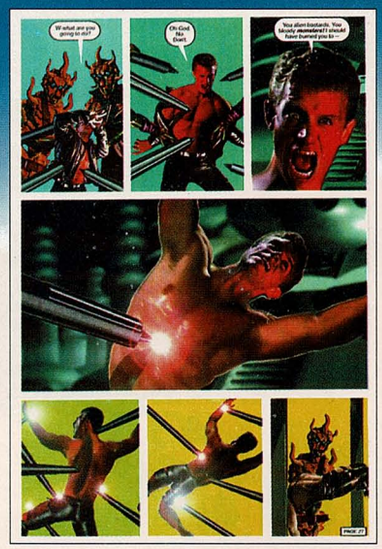
'The image is converted to a CMYK file in *Photoshop* and coloured. The file size is huge – 55Mb!'

'Finally, the image is reduced down to cover size, which smooths out all the rough edges.'





John Byrne is already working on using realistic settings he's generated himself as backdrops for his characters.



Nils Osmar uses a combination of photographs of real people and his own painting to create the 'photo-surrealist' *Cyber Reality Comics*.

Angus McKie used the landscape renderer *KPT Bryce* to place Dave Gibbons characters in the middle of a spectacular desert.

and put the original away in the cupboard, so I can draw it on tissue paper if I want to. Or in pencil or crayon. I've recently been drawing on layout [semi-transparent] paper with fine-line markers, which gives you a much more informal feel – much more comfortable.

'In a way, the original *is* the thing that gets printed – that's your artwork. Everything else is a means to an end, and now, as you never could before, you can control that end.'

An extra dimension

Artists who've spent more time on the Mac are exploring even deeper waters, discovering brand new ways of doing comics. John Byrne, a prominent creator who draws and letters his own scripts with the help of his Mac, has been exploring the potential of 3D. 'I built a set design that recurred in a comic and then I printed it out from different angles so that I was able to trace it off. I was using the Mac to make sure the perspective and objects within this fairly complex set would remain constant no matter what angle you viewed it from.

'Now I've stepped up about several thousand steps. What I was using was *ModelShop*, and now I'm using *Strata Studio Pro*. I've been building a lot of full-colour, fully-rendered scenes that ultimately I would actually like to start using for backgrounds. I would love to do a book where all of the people are characters I've drawn but all of the backgrounds are sets that I've built – like an animated cartoon where the people are flat but the backgrounds are rendered.'

"IF I WAS DOING STAR TREK, I'D BLOW PEOPLE AWAY WITH MY SHOTS OF THE ENTERPRISE."
JOHN BYRNE

John says another possibility is Mac models of objects, which you could turn around to view from any angle. One particular use of 3D modelling sprang to mind: 'If I was doing *Star Trek*, I'd be able to just blow people away with my shots of the Enterprise.'

Dave Gibbons and Angus McKie have already been using the landscape program *KPT Bryce* to add detail to the *Martha Washington Goes To War* series. Angus McKie recalls: 'Dave said, "When I draw the page, I'll indicate where I want a mountain – but exactly what type of mountain is up to you and *Bryce*." So he just put an outline there.' Angus then completed the image by rendering the landscape.

Nils Osmar is venturing further afield with *Cyber Reality Comics*. This is a book full of surreal adventure, with equally strange visuals. 'I got a Macintosh because I figured it would be good for just scanning artwork and colouring it with *Photoshop*. And then I just began playing around with *Photoshop* and realised what you could do with it, and

LAWSUIT ALERT

The small print of *Digital Justice* shows that DC comics appears to have trademarked the term 'the Net'. A mistake – or a lawsuit-in-waiting?

Continued on next page

DIGITAL PIONEERS

Surprisingly, the first Mac comic was released as early as 1986, when the Mac was a mere infant. *Shatter* was published by First Comics, essentially as a gimmick – the finished art was so crude there seemed little point in doing it otherwise.

The basic routine many comic artists use today was first demonstrated in *Shatter*. Pencil artwork was scanned into the Mac. An artist whom First called 'an electronic inker' then added detail,

Shatter was the first major comic to use a Mac to create the art – but better had to come...

like shading. The lettering was applied using a Mac font, and the result was printed out on a LaserWriter. The colour had to be done by hand later – because at that time the Mac screen display was still black-and-white!

What a difference four years can make! Colour had come to the Mac, and computer colour had arrived in comics. But the book *Batman: Digital Justice* showed what the Mac could really do when it was pushed.

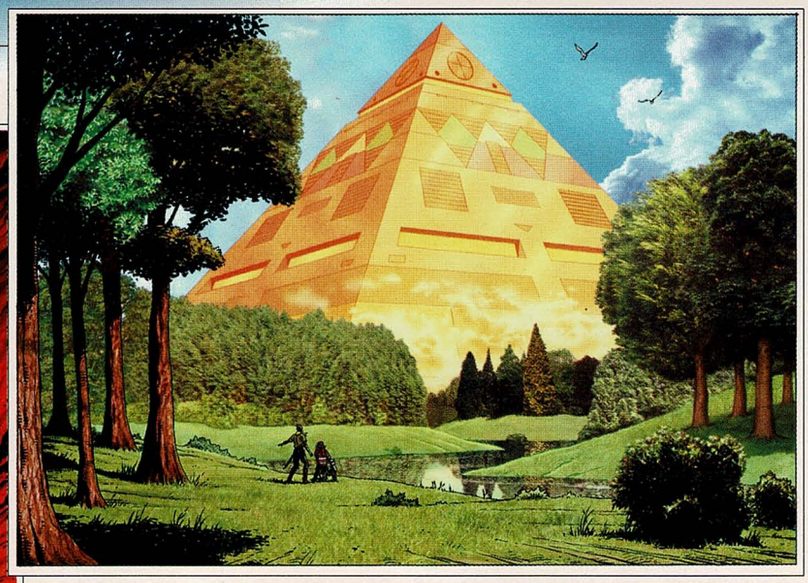
With the help of a Mac II fitted with a powerful graphics board and a mighty 45Mb hard drive, writer and artist Pepe Moreno mixed up pixel painting with 3D to create a distinctive look for his tale of the Batman of the future.

Moreno went on to get involved in multimedia with the *Hellcab* CD-ROM, while the Mac got bigger and better.

Pepe Moreno's *Batman: Digital Justice* took the Dark Knight into the computer age.

Digital Chameleon (working on *The Sandman*) is one of the colour separation firms that have sprung up in the computer age.

Angus McKie is able to use the Mac to heighten the atmosphere of a picture, and make it feel almost like you're there.



Martha Washington finds paradise (above). Gibbons and McKie were able to work together closely to achieve effects like this.

got this idea of doing photo-realism.'

At first glance the finished pages look as though they're based on photos, but the actual process is more complicated. 'I draw every page in pencil and scan into the computer, or draw on-screen with a graphics tablet. Portions of the artwork are painted, portions are done using *Photoshop's* airbrush tool.

'The figures are a combination of some photography and some drawing. I might photograph a guy's head. I might combine that with a picture of another guy's arm and part of his chest, and then I would paint the rest using airbrush tools. I would use the photograph part as a standard of reference for how much detail to put in.'

The result is an extraordinary blend of styles ('The more surreal the better, as far as I'm concerned,' says Nils Osmar) that draws strong reactions from those who see it. 'The response I've gotten to *Cyber Reality Comics* tends to be on or off. There are some people who see it and really connect with it, and there are some people who seem to be really scared by it – they've sent me letters saying comics shouldn't be that real.'

Creative revolution

Comic creators now have more control over how their work looks, and the Mac word is spreading as those in the know share their knowledge. Dave Gibbons remarks: 'Our attitude is that it's a good idea to share all the technical stuff – it's just the same as saying what sort of brush you're using.'

But the Mac is more than an extravagant design or painting tool. With the help of programs like *QuarkXPress*, and no small amount of knowledge, you can prepare the artwork for printing by yourself. Making sure that the separate colour films match up and will print well is part of the process called prepress. Angus McKie has a head start in learning about this side of things, as he has years of experience in producing colour film.

"THERE ARE PEOPLE WHO ARE SCARED BY IT -- THEY'VE SENT ME LETTERS SAYING COMICS SHOULDN'T BE THAT REAL."
NILS OSMAR

'It dawned on me that I ought to learn a bit more about the printing process – find out why my drawings don't look as good as I want them to when they're printed. It dawned on me pretty soon that I ought to adopt the limitations of what the printer can do, then work backwards from that.'

From doing his own colour sep-

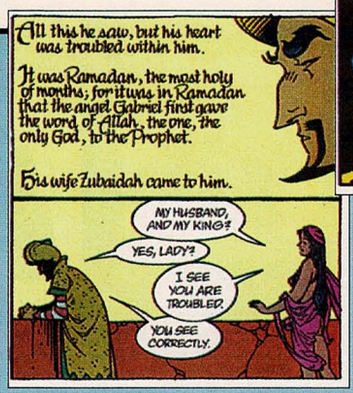
THANKS TO...

The Sandman is ©1995 DC Comics. The EC Comics panel is © William M Gaines, Agent, Inc. *Iron Man* is ©1995 Marvel Entertainment Group, Inc.

HANDMADE TYPE

Comics have been lettered by hand for decades. Somehow cold type just doesn't work when it's placed within drawings. What this means is that someone has to paid to hand write every word of dialogue that goes in the comic. Making the lettering consistent and legible is a task that requires great skill – in a way, each letter is drawn rather than written.

John Byrne is one of many artists and letterers who are starting to use the Mac to save time,


All this he saw, but his heart was troubled within him.
It was Ramadan, the most holy of months; for it was in Ramadan that the angel Gabriel first gave the word of Allah, the one, the only God, to the Prophet.
His wife Zubaidah came to him.
MY HUSBAND, AND MY KING?
YES, LADY?
I SEE YOU ARE TROUBLED.
YOU SEE CORRECTLY.

As these panels from *The Sandman* show, lettering is a demanding craft that requires versatility and precision from its practitioners.

RUFUS IDLY THUMBED THROUGH THE COMIC BOOKS GIVEN HIM BY THE BELLHOP! SUDDENLY HE CAME ACROSS...
H-N-N-N! THIS WEIRD FANTASY COMIC BOOK LOOKS FAIRLY GOOD! IT CERTAINLY IS SUPERIOR TO THE ORDINARY RUN-OF-THE-MILL TYPE! IT SHOWS IMAGINATION AND CREATIVE INTELLIGENCE!
I...I...
REDUCE ENGRAVING WITH OLD MOTHER HUBBARD'S CURE-ALL!
WEIRD FANTASY

As early as the 1950s, machines were used to replace the letterer, but this EC comic panel shows that the art and cold type just don't mix.

while retaining what he calls 'the organic "bounce" of hand lettering'. 'I've made several fonts,' he says, 'and – to my eye at least – they're indistinguishable from actual hand lettering.'

John Byrne scans in examples of his lettering and uses *Fontographer* to convert the shapes into fonts. This gives him the flexibility (and ease of use) of type, but the feel of hand lettering. 'What you can do with the Macintosh is set the spacing to look whatever you want it to look like. The problem is that you now get typing mistakes!'

If you'd like to get the handmade effect on your own documents but lack the precision to form your own beautifully-shaped lettering – and it's not as easy as you think – there's a font you can get that does it for you. *Whiz-Bang* is used in many design studios, and it achieves that easy-to-read feel. You can also use it to make

THE MAC IS THE LAW

Our cover star Judge Dredd is no stranger to the Mac either. The futuristic lawman's exploits in the British weekly *2000 AD* are now being drawn and coloured by Carlos Ezquerra and a Mac Quadra. 'Once I started to get the technical side, it was quite easy,' Carlos says. 'The figures I draw by hand. I do them in black-and-white with ink first and put it in the scanner, then colour it and put in the backgrounds with the computer.'

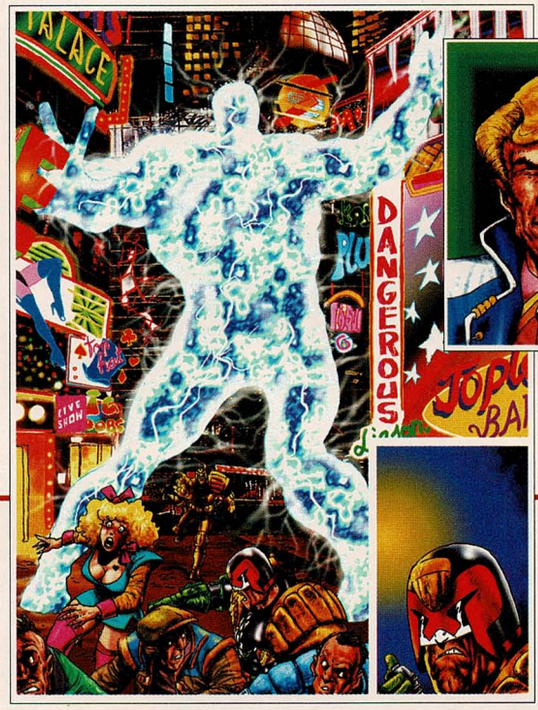
Carlos uses a combination of *Photoshop* and *Painter* to achieve effects like the leather of the Judges' uniforms. Photographs are scanned in and manipulated to provide the luminescent backdrops. He reckons that the Mac has significantly changed the way he works: 'It looks cleaner and you can put far more detail in. When you do everything by hand, it takes you a lot of time to do it – but when you are working with a Mac, you use a lot more time thinking, because you've got so many possibilities with it. You think, "I like this colour – no, I'll change it." Sometimes you have to stop thinking and say, "Okay, it's done." '

John Higgins is using the Mac to create covers for *2000 AD* and its sister magazines. 'The real thing that I wanted to get was to try and do something that looked like John Higgins artwork, even using the computer.'

Like Carlos, John had found that the Mac offered a new way of working. 'With the deadlines of publishing, you have to send some things off before you're very happy with them, even if it's just colour balance. But now you can do anything you want without losing your basic image – which is so satisfying...

'I'm never happy with anything, so it's great to go to the last minute and not worry about waiting for the paint to dry.'

Carlos Ezquerra drew the first Judge Dredd story, but with the Mac he's at his most colourful.



John Higgins is creating work for the American Dredd comic (main picture, above). Ezquerra and he are still able to keep their individual styles using the Mac.

Mega-City One is looking more futuristic than ever as artist Carlos Ezquerra learns more about his new tools.

arations in years past to using the Mac today, Angus has stayed with the changes in pre-press technology, so he can now offer more than just colouring by computer. 'All the books I've worked on, I haven't just done the colouring – I've done film output, the imposition and the proofs. The whole job has gone to the publisher, and he's more or less just looked it over and it's gone straight to the printer.

'I got involved with the computer because it was a pre-press solution, not because it was a colouring solution or a creative thing.'

It's this side of the Mac that has transformed other publishing industries, says Angus. 'The reason you see masses and masses of colour printing everywhere you go now is not because the printing's cheaper, but because the pre-press is cheaper.'

For comic creators, who have always been closely involved with the mechanical side of making comics as well as the creative side, the Mac potentially offers new freedoms to do the work they want to do. 'What it means is that you no longer need the publisher to do anything technical or creative – you can do all that

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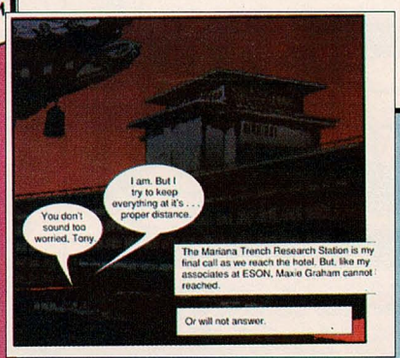
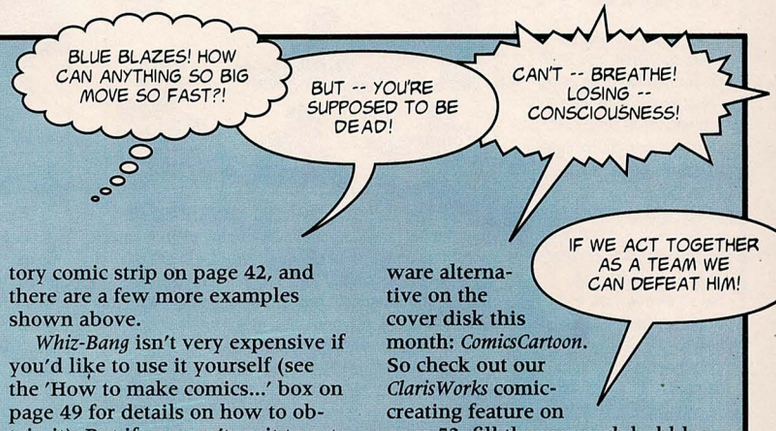
Artists and writer John Byrne has used the Mac to make his lettering into a font, so he can type his dialogue and keep that hand-made look.


You don't sound too worried, Tony.
I am. But I try to keep everything at it's . . . proper distance.
The Mariana Trench Research Station is my final call as we reach the hotel. But, like my associates at ESON, Maxie Graham cannot be reached.
Or will not answer.

Crash is a Mac-rendered Iron Man graphic novel by Mike Saenz, who also created *Shatter*. He chooses to use a regular font for the lettering.


BLUE BLAZES! HOW CAN ANYTHING SO BIG MOVE SO FAST?!
BUT -- YOU'RE SUPPOSED TO BE DEAD!
CAN'T -- BREATHE! LOSING -- CONSCIOUSNESS!
IF WE ACT TOGETHER AS A TEAM WE CAN DEFEAT HIM!

your own speech balloons – something else that takes a lot of practice before you can do it properly. We've used it in our own introductory comic strip on page 42, and there are a few more examples shown above.

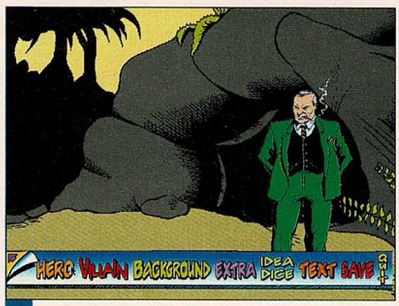
Whiz-Bang isn't very expensive if you'd like to use it yourself (see the 'How to make comics...' box on page 49 for details on how to obtain it). But if you can't wait to get started, we've put a decent shareware alternative on the cover disk this month: *ComicsCartoon*. So check out our *ClarisWorks* comic-creating feature on page 52, fill those speech bubbles and let that slugfest commence!

YOUR OWN COMIC...

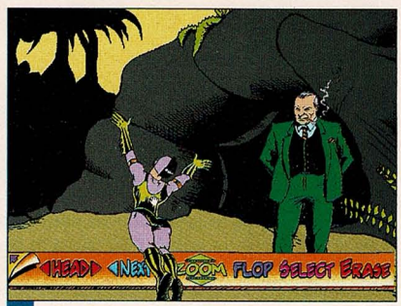
What do you do if you're desperate to create your own comics but you simply can't draw? Don't worry. Just like the professional creators, you can call on your Mac!

Two packages from America (where all the comics come from, right?) aim to make it foolproof. One of them, *Picaresque*, is designed for educational use. The other, *Comic Creator*, is still unfinished, but we sought out a demo from the developer, Putnam New Media, to get an idea of what it has to offer.

1 For each of *Comic Creator's* characters, you get a generous selection of poses, and even interchangeable heads – handy not only for close-ups but also for constructing precisely the pose you need for your story. There are 15 characters, both heroes and villains, and you can combine elements of different characters to produce a custom hero of your own. In addition, there are some 300 'extras' – civilian characters, props and other picture elements. The quality of drawing is high – easily up to the standard of many published comics – but it does assume that the comic you want to create is in the superhero genre...



2 Over 100 pre-drawn backgrounds are supplied, arranged in categories such as 'space', 'city scenes' and 'jungle'. Select a category and you can cycle through the scenes to find one you like, then enlarge or reduce it and 'flop' it (that is, flip it left over right), using straightforward button controls on the menu bar along the bottom (see step 3). You can then do the same with the range of 'villains' – select one using the faces that appear along the menu bar, cycle through the poses, re-scale them, then click and drag the one you want into position. (Just the sort of villain you expect in your jungle, this one...)



3 The process is the same for other elements, including your hero. Each element you add remains a separate 'object' which you can select and manipulate at any stage, to move or re-size as necessary – you can, if you like, fill the whole screen with a face in ultra-close-up. You can't rotate picture elements, but you can alter the 'layering' of them – that is, bring an item that is already on the page 'in front' of one you've just added. This means you can alter your composition if you find it isn't working. Here, the most recently imported item, our hero, is meant to overlap older items on the page.

yourself very easily from your desktop. What you need the publisher for is marketing and publicity.'

The tradition is that it's publishers, not creators, who own the characters. This means that you'll always get a steady supply of your favourite character, because the publisher can hire who he likes to write and draw the story. But when the creator owns the story, he controls the fate of his characters. Both approaches have their advantages, but creator control generally leads to a wider and more imaginative variety of material. An added plus for the creator, who had the ideas in the first place, is that he has more say over things like movie deals.

Angus McKie cites Legend as an example. It's a group of writers and illustrators who work with the publisher Dark Horse Comics – the difference being that they own their work and characters. For *Martha Washington Goes To War*, Frank Miller and Dave Gibbons devised the characters and story, and created the script and artwork. Angus saw to it that the pages Dark Horse received were ready to go straight to the printer. In other words, these three people had control over the entire project from conception until the moment it hit the printing presses. 'Dark Horse work for Frank and Dave – Frank and Dave don't work for them. And then Dark Horse is already set up for marketing and distribution.'

"FOR PEOPLE WHO'VE GOT THE CREATIVE ABILITIES TO DO IT, USING THE MAC IS LIBERATING."
ANGUS MCKIE

The Mac makes it easier than ever for comic creators to go it alone. They can now control directly the vital decisions of how the story will look, and how it's produced. Angus adds: 'I think it'll take a while because even though the solutions are there now, what isn't there are people who are in my position, where they can do a bit of painting and drawing, and they know what a dot gain is.

'If enough people can cope with it, and the software gets friendlier to use, I think the ramifications could be quite large. If you're interested in designing for print, here is a way you can take an idea in your head, work it out on the computer and get it straight into print – accurately, cheaply and effectively.'

Indeed, companies like Digital Chameleon and Olyoptics are already offering this type of production service to creators and companies.

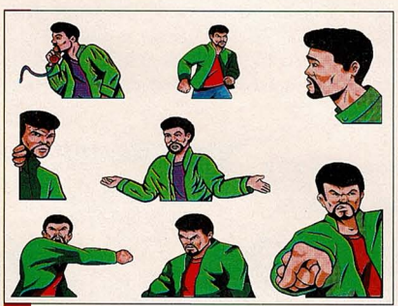
With the multimedia capabilities of the Mac, it'll be easy for creators to take their comic work into other areas. 'You can look at comics as a storyboard,' says Angus. 'There's always been a link be-

COMIC SHOPPING

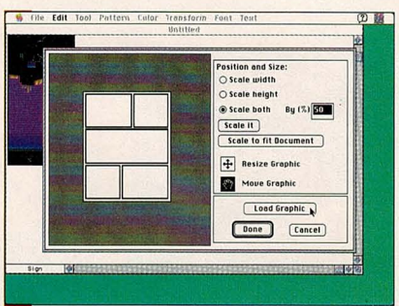
All of the comics mentioned here are available from your nearest specialist comic store. There's at least one such shop in every major city in Britain. The magazines *Comics International* and *Comic World* (on sale in newsagents) carry details of many shops – or you can check your *Yellow Pages* and local press.

...AND HOW TO MAKE IT

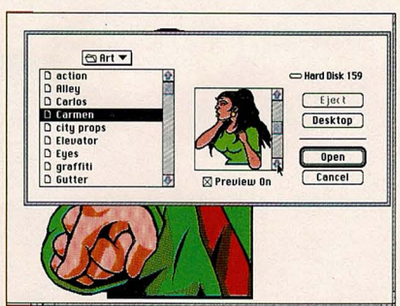
Both programs take the same approach: you build up your comic page using pre-drawn backgrounds and clip art. (*Comic-Creator* offers more ready-to-use elements, but *Picaresque* integrates some basic drawing tools as well, and you can paste images created with other programs into both.) Here's an overview of what they can do... but turn to page 52 for our step-by-step guide to doing it all in *ClarisWorks*. You may find you don't really need *any* other programs to do it yourself!



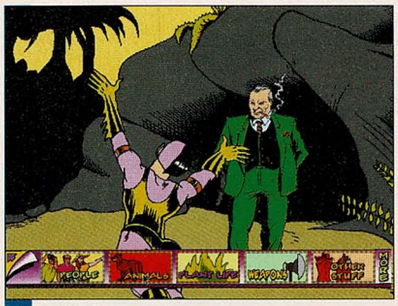
1 *Picaresque* boasts 'over 200' pieces of clip art, but the range of poses available for each character is more limited than *Comic Creator's* – this is the complete set for 'Carlos'. The program is avowedly designed for American inner-city senior school students: the documentation contains extensive suggestions for creative writing activities and says, 'The graphic theme is the city and the mood is dark and mysterious. Even reluctant students will be motivated to write when they see the hip characters and how easy the program is to use.' Hip they may be, but the unpolished drawing style is unlikely to suit everyone.



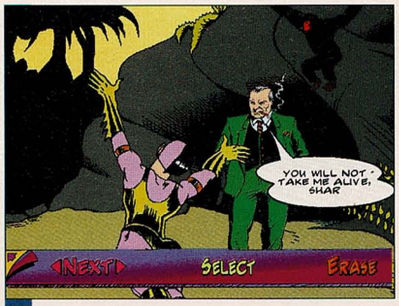
2 Begin by choosing a background Pattern or Picture. Pattern, rather bizarrely, places copies of a selected piece of clip art around your page. Select Picture and you get this dialogue box, enabling you to preview and choose from eight 'sets' (single background pictures like the one underneath) or six 'templates' (one is shown). But you can only have one in each document, and you can't have both a template and a set. Sets are probably more useful: there's no other way of using those backgrounds. Templates are just guides: they don't 'contain' the elements you place over them, and the edges don't 'crop' the art.



3 The next step is to add pieces of clip art. As well as the six characters, there's a fair range of city scenes, plus extras including hats, letters for creating your own graffiti on the walls, and props such as a fire hydrant, phone booth and baseball bat. Unfortunately the different kinds of image aren't classified in categories, so you have to scroll through the whole list each time, and, as in the case of Carlos, there isn't much choice within each category (except, that is, for hats. For some reason there are plenty of *them*...). You can, however, also paste in any image which can be cut-and-pasted, or import any PICT, TIFF or EPS.



4 The hero has been scaled up – notice that the body is 'cropped' automatically at the edge of the picture. Now it's time to add some props. Click in the small arrow at the top left of the menu bar and you return to the main bar, where the 'extras' button gives you access to people (innocent bystanders a-plenty), animals, plants, weapons and 'other stuff' (your guess is as good as ours...). One nice touch is that you don't have to cycle through all the images in a category to find the one you want – you can select it straight from the 'mug shots' overview screen (shown in step 1) wherever one is available.



5 Here we've added a token monkey (just to reinforce that jungle ambience). It seemed a bit more appropriate than the giant spider we might otherwise have chosen. Adding text is just as straightforward. First you select the style of balloon you want from the range of text balloons of various shapes, thought bubbles, and so forth; then re-size it or 'flop' it like other art elements – that is, left-to-right; it isn't possible to flip items upside-down. Position it where you want, then type your text straight in. It appears in the rather attractive comics-style font which is supplied as part of the package.

6 Save your completed scene and you move to a 'storyboard', from which you can create new scenes, activate any existing scene to edit it, rearrange the order of scenes, and print out your comic. You can also import images from other packages in PICT format – everything from full-screen scenes to 'clip art' – and use them like the elements that come supplied. The program is not a full-featured page layout package, but your print-outs are not necessarily limited to the grid structure shown: you can use 'masks' to crop and vary your panels so that the 'cells' can print out with different sizes and shapes.

WHERE TO GET IT

Comic Creator is being published by Putnam New Media in the US. The finished product is due in Spring – watch MACFORMAT for details of British distribution.

tween comics and film. Every year there's half a dozen projects coming out of comics and being made into films, but the link's going to become even more close.

'If you've got something where you've produced a comic for print, but you've got the technology to take the images you made for the comic, you can treat that as a storyboard for a film or a game. And not only have you got the storyboard, you've also got the wire frames and animated sequences. You're creating all this information that can be fluidly transported into other media.'

A similar process already happens in Japan, where frames are taken from animated films and arranged into comic pages to be printed. The highly personal work of a small group, untouched by company decisions of what will or won't sell, can reach more people than ever. Angus McKie adds the last word: 'For people who've got the creative abilities to do it, it's liberating.' **RICHARD HILL**

HOW TO MAKE COMICS THE MAC WAY

Adobe Photoshop
Image scanning, manipulation and colouring.
Price: £851.88
Contact: Principal on 0181 813 5445

Fractal Design *Painter*
Drawing and painting.
Price: £280.83
Contact: Letraset on 0171 928 6351

Macromedia *Fontographer*
Font manipulation and conversion.
Price: £528.75
Contact: Softline on 0181 401 1234

ModelShop II
3D modelling.
Price: £527.58
Contact: Computers Unlimited (CU hereafter) on 0181 200 8282

KPT Bryce
3D landscape design.
Price: £151.58
Contact: Principal on 0181 813 5445

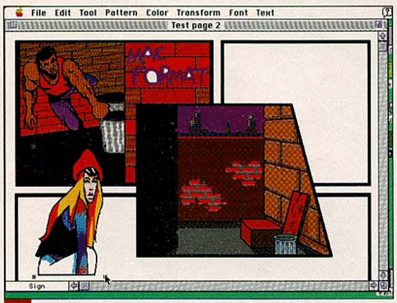
Strata StudioPro
3D modelling and rendering.
Price: £1,194.98
Contact: Gomark on 0171 731 7930

QuarkXPress
Desktop publishing and pre-press.
Price: £1051.63 for Mac, £1,169.12 for Power Mac
Contact: CU on 0181 200 8282

Whiz-Bang
Hand lettering font.
Price: $24 plus $3 postage.
Contact: Studio Daedalus on 00 1 217 398 8443

HAVE A GO!

Now you've seen how the professionals do it, try making your own comics with the help of our *ClarisWorks* tutorial on page 52. Send your comic creations on floppy disk to: Great Scott!, MACFORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW – and we'll print the best!



4 Select an image group and you can preview the individual images, but when you hit the **Open** button you get not the image you have in the preview window but the first in the group. You then have to use the space bar to cycle through to the one you wanted – there are no short cuts. You can select and re-scale every element – here we've stretched the alley background at the top left to fill the frame, added the graffiti as individual letters, and imported Spike and scaled him to fit. But there's nothing to stop you scaling things out of proportion, and there's no easy way to crop or re-shape a picture that's the wrong shape.

5 *Picaresque* does give you an impressive range of 'transformations' with which to modify elements, including full control over rotation and layering. It also scores with its range of tools, easily accessible through tear-off palettes which you can arrange where you like on-screen. These enable you to create objects from scratch, including a variety of shapes such as triangles, hexagons, stars and diamonds. All these can be outlines or filled solids, though you have to create them the way you want them – you can't just fill an outline shape. Nor can you radically alter the shapes – stretch and squeeze, yes; skew them, no.

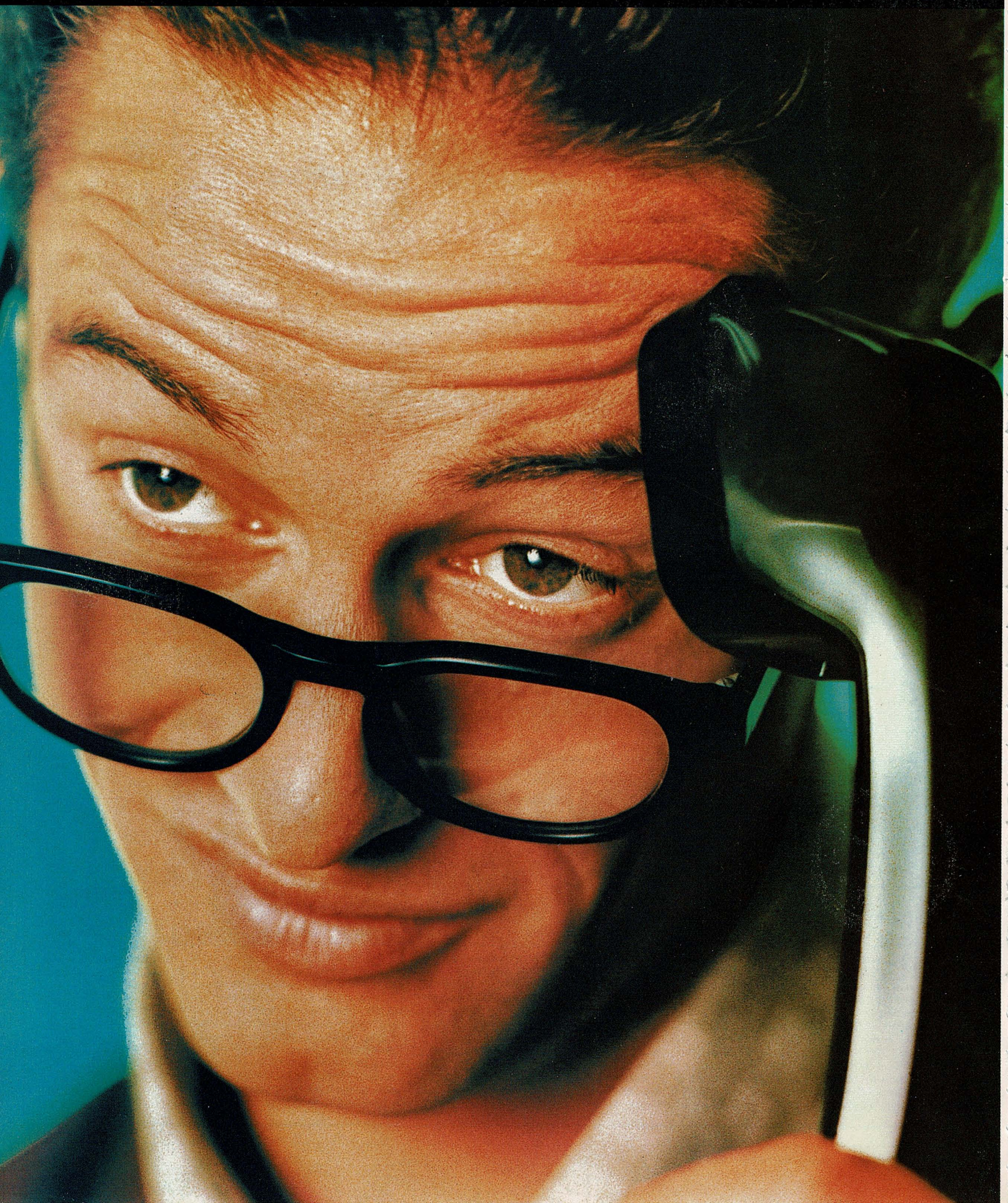
File Edit Tool Pattern Color Transform Font Text
Test page 1
Select the text tool and you can type text straight onto the page, then put a bubble 'behind' it
Here's a shape drawn with the freehand tool and filled with the current colour and pattern

6 The freehand draw tool is versatile and could compensate for the limited choice of clip art – if you can learn to master drawing with the mouse. Adding text, though, is simplicity itself: select the text tool, click where you want the text to go and just start typing. You can choose from a full range of fonts and text styles, and simply import a balloon afterwards – 'Speech Bubbles' is one of the clip art groups, with six styles available – then 'group' it with the text box. This is not entirely intuitive but it is easy. More difficult is figuring out how to mask inexplicably opaque areas like the white gap between Carlos' elbow and body...

WHERE TO GET IT

Picaresque, 'The Graphic Novel Publisher', developed by Toucan, is available for US$49.95 plus postage from Queue, Inc, in the US, tel 00 1 203 335 0908.

You bought a Mac. And then a few more. You tied them together. People started sharing.



Now they're sharing their frustration. With you. Time for a Workgroup Server.

That's the funny thing about the Apple™ Macintosh™ computer. With little fanfare and an idea known simply as 'plug and play,' it turned a whole group of novice users into networked team players.

Is it any surprise? Just plug a connector into the back of a Macintosh and you're networked. You can share files, printers – virtually any computing resource.

For some users this is the only kind of 'peer-to-peer' networking they need. Others, however, find they need a Workgroup Server, dedicated to improving the productivity of their team or department.

So how do you know which is right for you? Just ask yourself some simple questions.

Do I have more than five networked computers? Has printing begun to slow down my Macintosh? Am I sharing more and more files with more and more people? Is that essential information locked up on someone else's Macintosh?

Is there a danger of losing vital information? A 'yes' to any of these questions means it's time to consider an Apple Workgroup Server.

Apple Workgroup Servers provide the industry's easiest to manage centralised information store.*

Users can share files, ensuring they are available to just the right people at the right time. Without losing information or slowing systems down.

Apple Workgroup Servers also provide ways to share network applications and services, like accounting programs, databases, e-mail, calendars and more.

And that is just the beginning. With our integrated print spooling software users can free-up their Macintosh computers from printing jobs much faster, enabling real gains in productivity.

With Dantz Retrospect Remote® software† you can schedule automatic back-ups of both server and individuals' Macintosh desktop data across the network – automatically. Never has your information been so secure!

With FileWave®‡ software you can simplify the management of upgrading or installing new software. FileWave automatically checks the networked Macintosh systems, ensuring that key applications and documents are uniformly maintained at the correct version.

And using Apple Remote Access software from Apple, even mobile PowerBook™ users can be managed. Apple Remote Access allows users to exploit their network services from anywhere in the world – across any time zone – as if they were on their local network.

Viper Instant Access™§ is a high performance application for fast access to reference information such as telephone numbers, price lists, product and people details, without the overhead of a general database application.

Central administration ensures both consistency and guaranteed availability – at any time.

So how easy is an Apple Workgroup Server to use? As easy as a Macintosh. And choosing the right Apple Workgroup Server for your needs is just as easy.

We have a complete family of products, including our newest models based on highest performance PowerPC™ technology. If this hasn't convinced you then browsing through our Apple Workgroup Solutions Guide will undoubtedly reveal the perfect solution from the breadth of software and hardware available.

To get your hands on our Solutions Guide – and for the name of your nearest Apple Authorised Reseller – call 0800 234800 today. And get the power you need most from your workgroup environment.

Apple

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Comics in ClarisWorks!

Even amateurs like Garrick Webster can design comic-style pages using *ClarisWorks*. MACFORMAT asked the webster to tell the world how to play Spiderman with his favourite package.

We may not all be Jack Kirbys or Frank Millers, but thanks to the Macintosh and *ClarisWorks 2.1* that doesn't mean we can't try to create out own comics at home. So, if you've ever craved to craft your own comic strip, funny fanzine or graphic novel, these simple steps should get you on your way.

It may seem obvious, but no-one can just plonk themselves down in front of their Mac and come up with a comic just like that. Comics start off as ideas. When you can turn ideas into a plan, maybe, just maybe, a comic strip will hatch into the nest of reality.

First of all, you need a story. Read any comic, be it *Superman*, *Viz* or *Oor Wullie*, and you'll notice that each page, section or strip has a narrative behind it. In other words, the artist is telling us a story through the pictures. Your story has to be a simple one that can be conveyed easily using as few words and as much art as possible. The more complex you make it, the more demanding it will be on your illustration skills. When you've mastered the art of creating comics you can be a little more adventurous, but to begin with, the key is simplicity. **MF**

Turn to the education feature on page 102 for more about story creation.

Quick *ClarisWorks* tips

1. Whenever you draw something by putting together several shapes, always group them immediately. This will make it easy to move and resize the drawing, and will prevent errors later on.
2. If you don't like the slight contortion of your drawings which happens after you deselect them, go to **Preferences** under the **Edit** menu and select **Graphics Preferences.** Turn off auto smoothing and *ClarisWorks* will stop changing the shape of the things you draw.
3. Editing the colour palette, also through **Preferences** under the **Edit** menu, can give you a new range of colours to use. However, if you paste something in or import some clip art, there's always the chance the palette for that object could go wild. It's usually best to stick to the standard 256 colour palette.
4. For more complex drawings, you might consider making a Paint frame within your comic document. This will give you more accurate pixel-by-pixel editing, rather than just letting you create shapes. Cancel the paint frame's white fill pattern and give it no border line, and it will fit right in with the rest of your drawn shapes.
5. To keep the same tool selected when drawing, just double-click it and it will stay selected until you choose another tool.
6. For intricate work, set the rulers to points and zoom in to 200 or 400%.

CAN'T DRAW? TRY CLIP ART

Don't despair if you're not a great artist – you can still create a comic masterpiece with ready-drawn clip art. Here are two collections that might help...

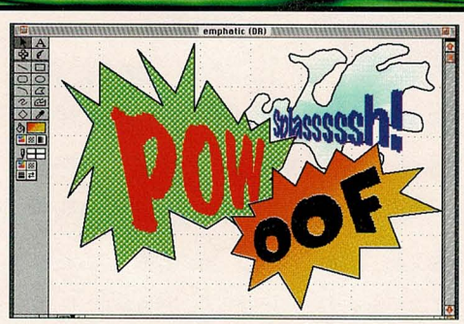
Corel Gallery Macintosh.
Price: £52.88. Out: now.
Requires: LC or better, 4Mb of RAM (8Mb recommended, or more if using Photo CD images), Colour QuickDraw, QuickTime 1.61 or later and a CD-ROM drive.
Call Channel Market Makers on 01703 814142.

ClipMasterPro.
Price: £29.99. Out: now.
Requires: Mac Classic, SE, IIcx or better, 2Mb of free RAM and any Mac compatible CD-ROM drive. All images in TIFF format.
For more details contact One Stop Software Ltd on 0181 780 1001.

SPLAT! THWACK! KA-ZAP!

What comic book would be complete without those great emphatic onomatopoeic splashes that sometimes fill whole panels? Here's how to make 'em!

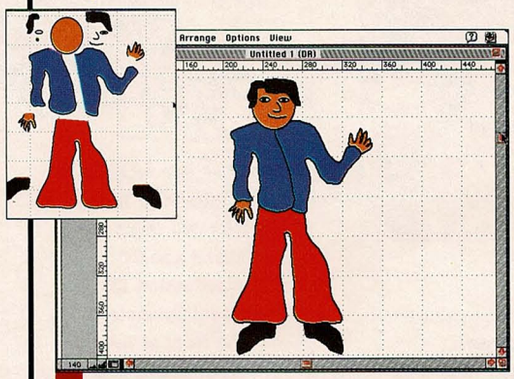
1. You're going to need the text. But you're not going to want ordinary text – it has to be big, colourful and distorted so it looks a like it's coming out of the page. To get the right effect in *ClarisWorks* you need the Paint module tools. So, open a Paint frame on your Draw page by selecting the Paint tool and defining the frame's area. Within that, open a text frame big enough for your letters.
2. Choose your font, colour, style and so on, and type in the sound you want to emphasise – Splat, Ooof, or Crunch. Then select the text with the lasso tool. You'll then be able to rotate it, slant it or distort it however you like! WOW!
3. Because the Paint mode frame will have a white background, select it from Draw mode and change the fill pattern to none (the white on white box). To eliminate the line around the box, choose **No Line** from the **Line Thickness** panel.
4. Now, your fab word is sitting in your Draw document and all you've got to do is make a splash or crash shape behind it. Do this with your Draw tools. After moving the shape into place, select **Move to back** under the **Arrange** menu. Le voila, c'est *fantastique*!



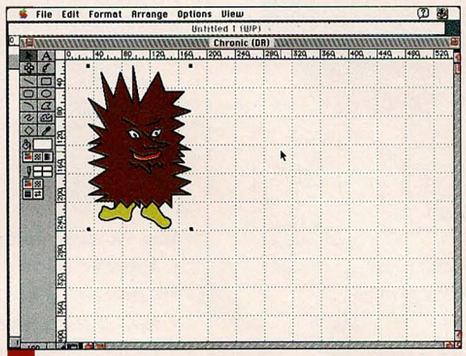
Emphatic splashes like these are an essential part of the fun involved with making a new comic. Yippee!

How to Create Your own Comics in ClarisWorks

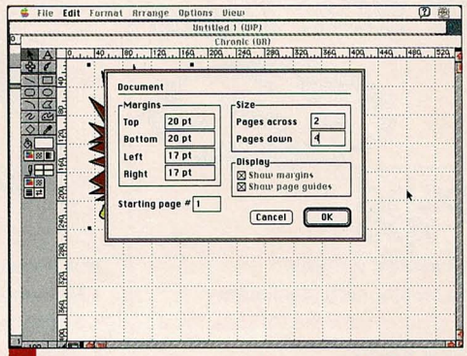
By the time you've got your story sorted out, you'll have an idea of what your characters are going to look like, what they'll be wearing, etc. Now you can really get into the creative swing of things by playing around with the Draw mode in *ClarisWorks*...



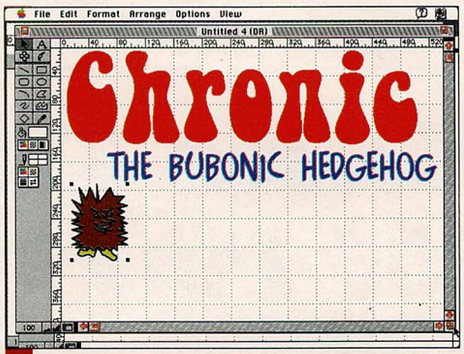
1 You can draw a character from shapes, using the *ClarisWorks* tool bar. To draw a person, you can use the circle tool to draw the head and eyes, the freehand line tool for the mouth and nose, and assemble the body from various shapes created with the bezigon tool. Once you've drawn and put in place each part, you can group the objects together, and move the character around, resize it to fit in a frame and so on.



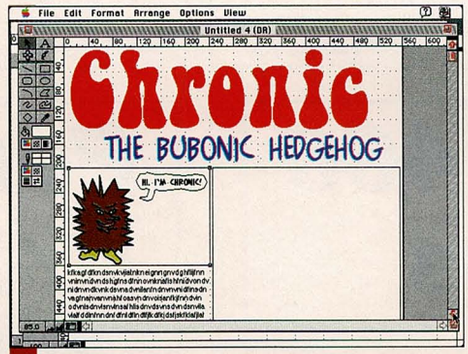
2 But you might not use people for your characters at all. Here's Chronic the Bubonic Hedgehog. His body was made using the irregular polygon tool to make it all spiky, and his nose and chin were done with the freehand tool. His eyes, mouth and feet were done with the bezigon tool – a handy tool once you get the hang of it. But keep it simple – once you've got a few characters sorted out, stick with them.



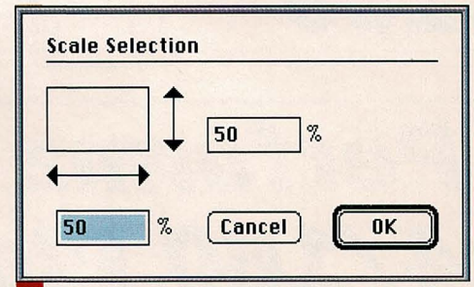
3 Now, you're ready to start making your comic. So, based on your story outline, decide how many pages it's going to have and what's going to happen on each page. You might even make a rough sketch showing how many panels (or 'frames') each page will contain. Open a Draw document, and choose **Document** from the **Format** menu to set the number of pages across and down.



4 With the document ready, you can get your teeth into the layout. The top of the first page will need your comic's title bar – if you're not making a whole cover, that is. Either way, it's best to make it as simple as possible at first. Fonts like the Marker fonts (free with MacFormat 6), Bellbottom (free on MacFormat 10's cover disk) or ComicsCartoon (on this month's cover disk) are ideal for this sort of thing.

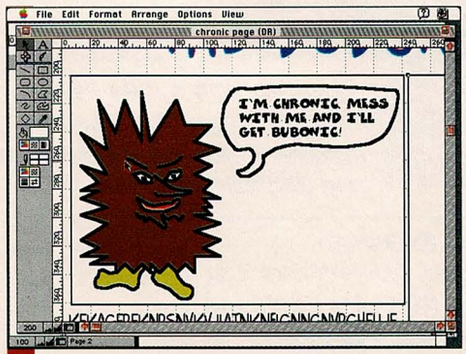


5 Next draw in your panels, sizing and shaping them perfectly. Make white box shapes on the page first, just to set out where your panels are going to be and what shape they'll be. Don't make the panels too small or have too many things happen in each box. Some panels can be for text, so make text boxes and fill them with letters. You can write the text later and add fill colours behind the text.

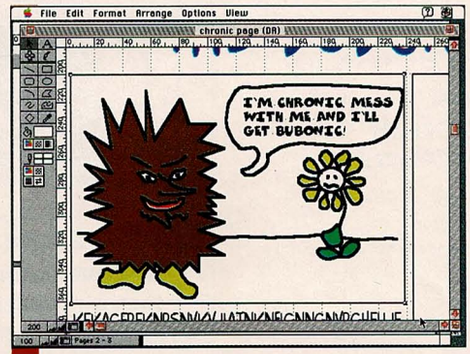


6 When the panels are in place, you have to fill them with pictures. If you find drawing tough, you can do what I've done by basically designing the character, then copying and pasting it onto the page and putting it on top of the panel's box. You then resize it to fit where it's meant to.

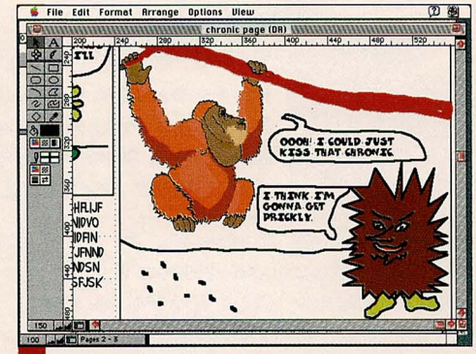
The easiest way to resize something, of course, is simply to grab the handles of its bounding box and drag them in or out to suit. But to make certain that the proportions remain correct, you can go to the **Options** menu and select **Scale Selection...** then just type in the new horizontal and vertical percentages.



7 After you've sorted out where the characters are going to be in the panel, it's time to add the text. Decide what font, size and style is suitable and stick to it. Ideally, no text balloon or box should be more than three lines long. You can draw text balloons using the bezigon tool. A two point line is probably best for encircling the words. To keep voice or thought bubbles standard looking, you can duplicate them and flip them over.



8 Backgrounds. What a headache. The best advice I can give is not to worry too much about them unless you're really good at drawing. When your characters are in place, make a simple background – a door and window, a horizon and plants, whatever – then move it to the back behind your comic characters. But if you're really stuck for backgrounds or characters, you can always use clip art...



9 Clip art Collections such as Softkey's *ClipMasterPro* and *Corel Gallery for Macintosh*, both on CD-ROM, contain loads of images that are easy to import into *ClarisWorks*. After selecting the piece of clip art you want, just use the **Insert** command under the **File** menu to open the file from your CD-ROM drive. Resize the clip art image to the size you need and use it. This orangutan was clipped from *Corel Gallery*.

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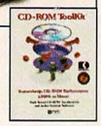

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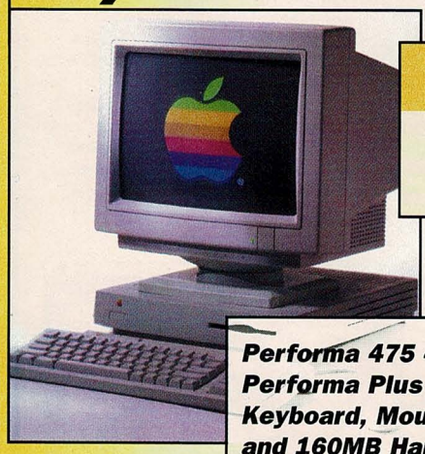

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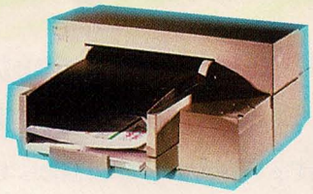

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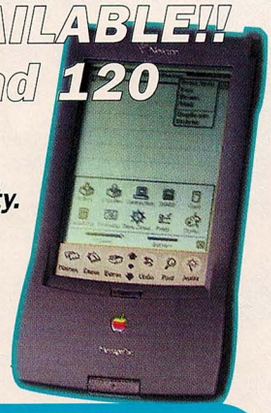

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The Complete Maus

This biographical CD-ROM is an adaptation of an award-winning comic book that respectfully tackles the sensitive subject of the horrors and atrocities of the Holocaust.

ALL 12 OF OUR HOUSEHOLD WERE GIVEN NOW TO LIVE IN 2½ SMALL ROOMS...
REWARD
MANY PEOPLE GOT EVEN LESS SPACE, BUT FATHER-IN-LAW AND WOLFE HAD A LITTLE INFLUENCE...

With *The Complete Maus*, you can compare Spiegelman's sketches to their finished equivalents.

Maus, possibly the most acclaimed comic of the past ten years, relates the events of the Holocaust through the eyes of a man called Vladek Spiegelman. His son Art happens to be an experimental artist who's done a great deal of comics work. As well as reproducing all the pages of the book itself, *The Complete Maus* shows the processes of research and design that went into creating the story. It also touches on the relationship between father and son along the way.

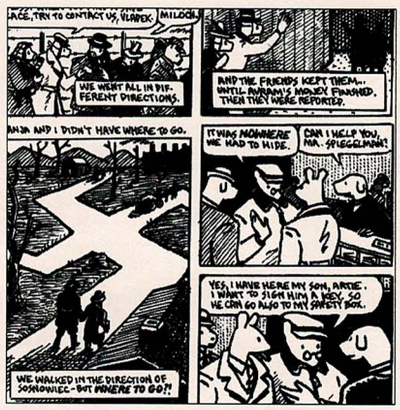
Have a look at the rolling demo of *Maus* on this month's CD-ROM

The introduction takes you through the creation of a single page – how Vladek's reminiscences are converted into pictures, and how those pictures are arranged on the page to add extra meaning. It reveals the deeply personal nature of Art Spiegelman's research and reminds you of the real life experiences you'll find if you scratch the surface of *Maus*. The introduction also gives you some pointers as to how to use the program and some of the thought that went into designing each page. To appreciate the subtleties of page design and symbolism employed in comics at this level of skill, you have to learn to interpret the meaning of images as well as words.

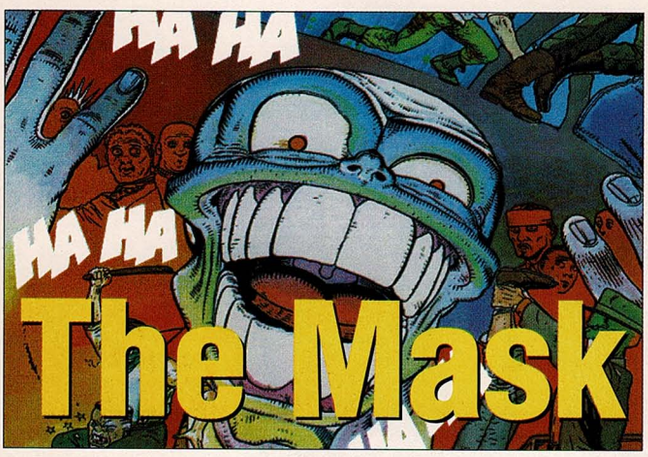
The bulk of the CD-ROM is devoted to the 271 pages of the tale. The Nazi occupation of Poland has effects, both darkly subtle and terrifyingly dramatic, as it tightens its grip on the country's people. Finally Vladek is taken to Auschwitz, the concentration camp with the infamous slogan 'Work makes you free' mocking those who are unlucky enough to enter its gates. But ultimately – and self-evidently – Vladek *is* freed.

Spiegelman has elected to represent different ethnic groups as animals: the Jewish people are drawn as mice, while other Poles are pigs and the Nazis are cats. The device forces you to view characters not as individuals, but as part of a mass. It's a reminder that the Nazis achieved their horrific ambitions by using propaganda to achieve this end during the Occupation.

The Mac screen is not the ideal place to read this work. It's the wrong shape and can't match the detail of a printed page. The program copes with these unavoidable facts as well as possible. You can zoom in to view some of the panels in close-up, using the mouse to move up


ACE, TRY TO CONTACT US, VLADEK. MILOCH.
WE WENT ALL IN DIFFERENT DIRECTIONS.
AND THE FRIENDS KEPT THEM... UNTIL, AFTER ALL MONEY FINISHED, THEN THEY WERE REPORTED.
AND I DIDN'T HAVE WHERE TO GO.
IT WAS NOWHERE WE HAD TO HIDE.
CAN I HELP YOU, MR. SPIEGELMAN?
YES, I HAVE HERE MY SON, ARTIE. I WANT TO SIGN HIM A KEY, SO HE CAN GO ALSO TO MY SAFETY BOX.
WE WALKED IN THE DIRECTION OF SOSNOWIEC - BUT NOWERE TO GO!!

The panel at bottom left shows off Spiegelman's use of symbolism to add extra layers of meaning.



You've read the comic, you've seen the movie, and hey, you've probably even worn the T-shirt. Here's your chance to explore this fantastic tale, in all its grinning glory, on CD-ROM.

Stanley's just another ordinary schmuck trying to get by. He gets frustrated by life sometimes, bobbing helplessly along in the wake of fate. If only he could strike back... This is the story of how Stanley gets his chance.

You may have seen the film version of *The Mask* last year, but might not have been aware it was based on a comic series published by Dark Horse. This CD-ROM cuts up the pages of the comic and puts them onto the screen, adding the voices of actors, loud sound effects and music. Some key moments have visual effects added to them, and there's even some very limited animation.

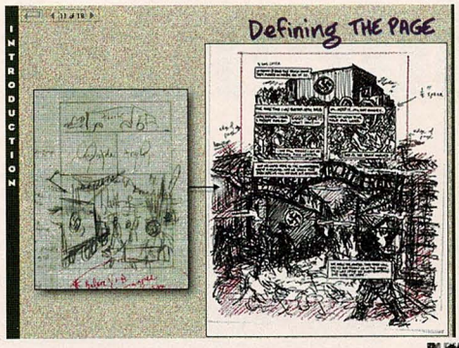
The Mask is made to be watched like a video. In the story, Stanley buys a mysterious mask for his girlfriend Katherine. The mask takes over their lives in different ways, but the most dramatic effect is on Stanley. Slipping the mask on, he becomes possessed by a demonic force of violence, and exacts revenge on eveyone who'd made his life a misery.

Kellaway is the cop who's assigned the task of tracking down this mysterious figure, and he eventually has to cope with the lure of the mask himself. Determined to seek justice, he has to choose between staying true to the laws he's always followed or becoming a law unto himself. Which path does he choose? And what

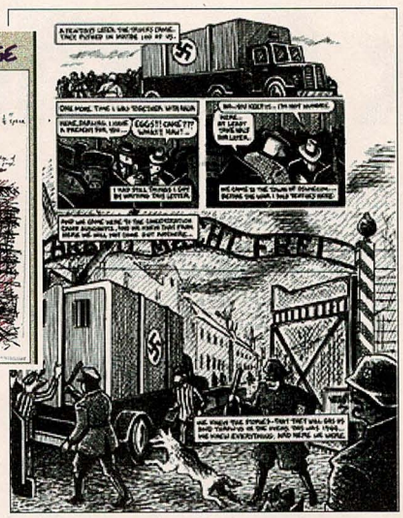
The Mask takes over – free at last! The icons take you though the story and control the sound.

MASK RETURNS

A new *Mask* comic book series is starting soon – check with your local specialist comic shop for details.



The introduction traces the development of a single page, explaining the choices made during its creation.



PART TWO 3
ALL NIGHT I HEARD SHOOTING. HE WHO GOT TIRED, WHO COULD WALK SO FAST, THEY SHOT.
THE MORE WE WALKED, THE MORE I HEARD SHOOTING...
Prisoner's drawing
SO, ROUND AND ROUND HE LAY QUIET.

The merging of fact and fiction – like the comic panels and this Auschwitz prisoner's drawing – is what makes the CD-ROM so compelling.

and down the page. Despite this handicap, the crucial reason why this particular comic on CD-ROM works so effectively is the wealth of support material. The CD-ROM is also rather memory hungry, but the wealth of information surely outweighs this defect.

While the publishers could have collected the comic and all the sketches, photos and interviews into a giant, sumptuous paperback, the CD-ROM format gives you a freedom that a coffee table book couldn't match. You can read the entire story without diversion, or you can pause when you choose to view preliminary sketches or discover the research material that guided Spiegelman's hand on a given page. You can take in excerpts from interviews or video footage shot by the artist while you look at the page that these slices of real life inspired. Fact and fiction exist side by side, and feed each other in ways they never could in a book.

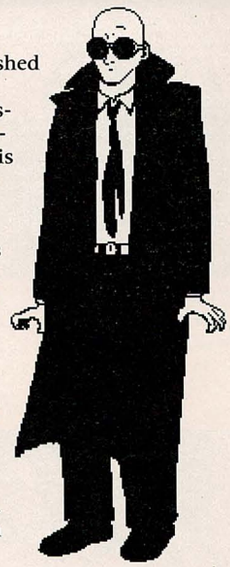
The *Maus* CD-ROM has a understated feel that fits what's being discussed here. Spinning logo animations and playful sound effects would seem out of place. Indeed, there's only one burst of music, a spirited, gramophone-scratched toot of jazz as the program begins. The rest of *The Complete Maus* is as respectfully still as the comic – the one thing that breaks the silence is Vladek's voice. **RICHARD HILL**

THE COMPLETE MAUS

Price: £51.70. Out: now.
Requires: Mac IIci or better, 8Mb of RAM, System 7 or later, a 13-inch colour monitor and a CD-ROM drive (double-speed recommended).
For more details contact Softline on 0181 401 1234.

MACFORMAT RATING **85%**

MISTER X



A different approach to comics on CD-ROM can be seen in the *Mister X Preview*. It's based on the comic published intermittently by tiny Canadian firm Vortex. *Mister X* (the comic) is a consistently stylish tale of love and architecture in the futuristic Radiant City. This version is a small excerpt from a projected CD-ROM, which is unlikely now ever to appear. As such, it's probably of interest to comics junkies only, but it uses an entirely different method of adapting the comics to the Mac screen.

Here, the entire issue is turned into an animated film by taking the comic's original drawings and using the Mac to add simple movements to them in real time – in other words the Mac is drawing the animation as you watch, not just displaying a video. Again, actors speak the words, but the words don't appear on-screen as they do in *The Mask*.

Mister X is pretty crude, but it's a worthwhile attempt at using the Mac to enhance the comic, rather than simply reproducing it in an inferior format. The finished article would have contained more animated tales, a page-by-page reproduction of the entire published series and reprinted magazine articles on the title. We haven't given *Mister X* a rating because there's really so little to it, but it's available for £17.57 (plus £4 p&p) through the distributor KimTec, whom you can call on 01202 888873.

The issue from which the animation is derived is reproduced reasonably well, but unfortunately it's just a little bit too small to be able to read the text comfortably.

Katherine tries to cope with her boyfriend's new look, but he can't be restrained for long...

WHAT WAS THAT?
OH AHA-AHA THAT'S JUST MY BOYFRIEND. HE BOUGHT A MASK IT WAS JUST A BIG JOKER.
RIGHT THAT'S IT HONEY AND I GOT A GREAT JOKE TO TELL YA. SO COME BACK WRECK SUGAR
HAVE GUN, WILL USE

part does Katherine play in the migration of the mask from one man to the other?

The CD-ROM version is competently done. The art and lettering are perfectly legible, and the sound is well recorded. The actors even add some witty little touches from time to time. But the exercise ultimately seems pretty pointless. Why watch something on CD-ROM when watching it on video – or buying the comics, in this case – would cost less? And why listen to the actors when all the words are on screen in word balloons?

The story adds to the sensation of wasting time because there's basically not much to it. Much of the time is devoted to sequences of *Home Alone*-style violence, a repellent combination of free-flowing gore and slapstick. You do get a lot of content for your money with *The Mask* on CD-ROM, but its value to you is another matter. **RICHARD HILL**

THE MASK

Price: £24.99. Out: now.
Requires: any 256-colour Mac, 4Mb of RAM, System 7 or later, a 13-inch monitor and any CD-ROM drive.
For more details contact Activision on 0181 742 9400.

MACFORMAT RATING **57%**

Comic Book Confidential

Jack Kirby, Stan Lee, Frank Miller and Co take you on a QuickTime tour through 50 years of American-comic history.

Film-makers get interviewed on television by Barry Norman or profiled on the *South Bank Show*, but where can you find out more about comics creators? Well, you could do a lot worse than Voyager's *Comic Book Confidential*.

Frank Miller: 'I hope *Dark Knight* is silly and frightening at the same time...'

The basis of this CD-ROM is a QuickTime version of the 1988 film of the same name – a 90-minute tour of the history of American comic books, centring on interviews with some of the significant creators from the five decades between *Famous Funnies* and the present day. Many of them even read from their works. There are also some fabulous clips of 1950s anti-comics propaganda films, as well as footage of the resulting Congressional hearings into comics.

There's a rolling demo of *Comic Book Confidential* on the CD-ROM

R Crumb and Victor Moscoso reminisce about the heyday of underground comics.

Lots of the important names are here. Jack Kirby and Will Eisner talk about the '40s; Bill Gaines, Al Feldstein and Harvey Kurtzman give you an entertaining insight into the notorious EC comics of the '50s, with Gaines having plenty to say about the anti-comics scare and its results; Stan Lee enthuses about the Marvel boom of the '60s; some of the most notable underground artists put in an appearance, including Robert Crumb, Spain, Victor Moscoso and Gilbert Shelton; Art Spiegelman and Frank Miller discuss their graphic novels; and the avant-garde creators of the '70s and '80s are well represented (some might feel over-represented), with contributions from Charles Burns, Jaime Hernandez, Harvey Pekar and others.

As the film's director, Ron Mann, explains in a separate interview on the CD-ROM, the film isn't intended as a definitive history; it's more a sequence of 'snapshots' of moments of history, as told by the participants themselves. This means it doesn't really fill in the gaps: you don't learn much about the wider consequences of the imposition of the Comics Code in the '50s, or even get much sense of the range of the work of seminal figures like Kirby and Crumb relative to, say, Sue Coe (who?).

The film doesn't claim to be comprehensive either: the only mention of Mickey Mouse, for instance, is in connection with an underground parody of him. It's also entirely US-centric: there's only passing mention of Japanese manga, and the UK doesn't get a look-in *[let alone a* TV21. *Best British comic ever, I reckon. And I still wish I had a set of 'em – anyone got a set for sale? – Ed]*.

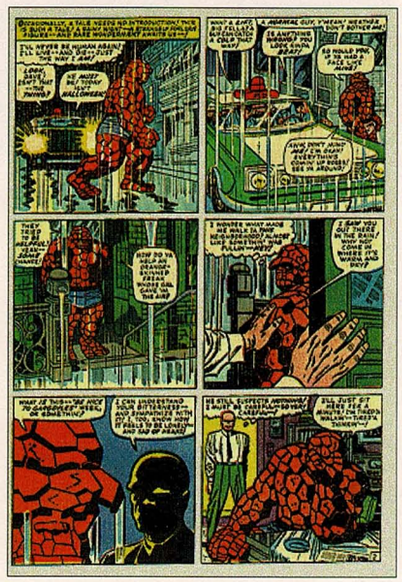
Within these limitations, though, the film is a gem. The only real problem is that the QuickTime resolution isn't quite good enough to make out the detail in some of the art displayed, not to mention many of the word balloons. You can increase the window size, but you only get a bigger mess of pixels.

To compensate for this, the CD-ROM does include an excellent 'Comics Collection' – a superbly-digitised slideshow of comics, most of them complete stories, totalling some 120 pages. There's also an exemplary indexing system that enables you to go straight to the film interview with a particular artist, to that artist's reading, to the complementary comic in the 'Comics Collection', or to a short text biography complete with a chronology of the artist's published works.

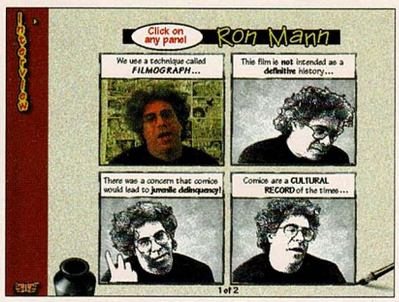
Apart from the regrettable graininess of the QuickTime movie, the package is well put together and packed with fascinating material. If it weren't for the hefty price tag, *Comic Book Confidential* would be a must-have collectible for any comics enthusiast. Fifty quid would buy you a heck of a pile of those picture books based on someone's collection of turn-of-the-century *Beanos*, usually to be found in the remainder bins at your local bargain bookshop. But I'd go for the *real* classics on this CD every time. **ALEX SUMMERSBY**

JAIME HERNANDEZ
ARE THEY STILL THERE?
I DON'T HEAR ANY THING.
40 THIEVES
WHAT WILL I DO? THEY CAN GET ME FOR CURFEW!
WELL MAKE A BREAK FOR THE BACK DOOR.
BABY DAPHNE!
I DON'T THINK THERE'S BE ANY COPS IN THE ALLEY...
HEY!
SMARTER
- 4 -
SOB! THEY'RE GOING TO PUT US IN JAIL... I KNOW IT!
WAIT! THERE'S... DOYLE!!
???
HOME, JAMES! ON THE DOUBLE! HURRY, DAFFY! I THINK THEY'RE COMING!
BUT... BUT...

Archive film of Fredric Wertham testifying to Congress! Comics pages! Jaime Hernandez not only reading from his works but recreating them for you! This CD has it all!



The *Comic Book Confidential* CD includes classic stories like this Jack Kirby *Fantastic Four* masterpiece.

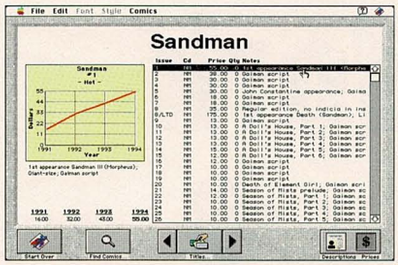

Click on any panel
Ron Mann
We use a technique called FILMOGRAPH...
This film is not intended as a definitive history...
There was a concern that comics would lead to juvenile delinquency!
Comics are a CULTURAL RECORD of the times...
1 of 2

This is not just a video CD – a separate interview with *Confidential's* director boasts this clever interface.

COMIC BOOK CONFIDENTIAL

Price: £51.70. Out: now.
Requires: LCIII or better, 5Mb of free RAM, System 7 or later, 13-inch colour monitor, CD-ROM drive (double-speed recommended).
For more details contact Softline on 0181 401 1234.

MACFORMAT RATING **80%**



It's like a complete price guide on your Mac! *ComicBase* can even display each issue's change in value.

ComicBase

All the information a comics fanatic has ever dreamed of, in one easy-to-use, breathtakingly comprehensive database.

When I were a lad growing up in suburban Sydney, we'd have laughed at anyone who said 'When I were a lad'. But we didn't know any better. We were plain ignorant of the wider world, you see – we knew nothing of how people talked in the North of England, or what snow felt like, or how many issues there had been of *The Mighty Thor*.

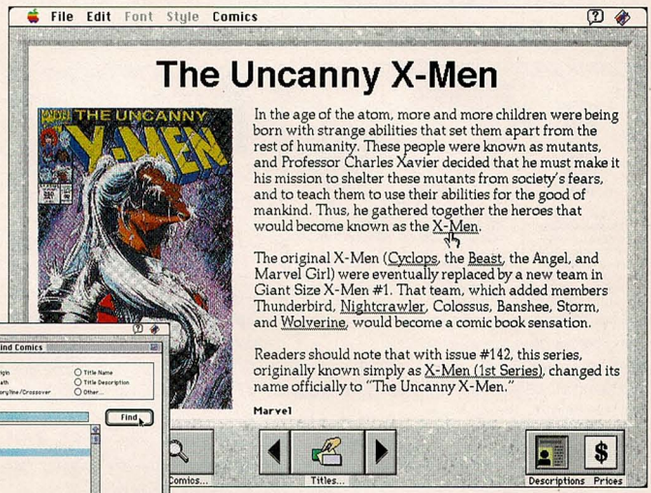
Well, I grew up, came to the UK, met some real Northerners, experienced snow (and split my trousers in my first snow-fight, but that's another story), and discovered that there were places you could look up *Thor* and *The X-Men* and most of my childhood favourites. For verily (as Thor was fond of saying) there are now plenty of comic book guides that explain why it wasn't as simple as finding the issue number on the cover. They reveal that Thor first appeared in issue 83 of *Journey into Mystery*, and that this was the comic's official title until issue 126. They also note that the first appearance of the character Pluto was in issue 127, and that the origin of the Inhumans was recounted in issues 146 and 147. Etc etc.

Now, if this is the sort of information you find exciting, you really should get out more. But if it is, then you probably already have a copy of the *Overstreet Comic Book Price Guide* or something similar, which is positively bursting with such details, plus the minutiae of guest appearances, cross-overs and continued stories, not to mention the outrageous prices these things change hands for. So what can an 'encyclopedia of comics' on CD-ROM offer you that *Overstreet* can't?

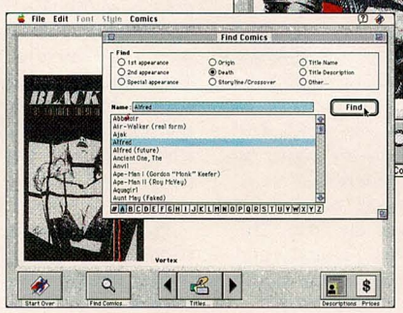
There's an interactive demo of *ComicBase* on this month's CD-ROM

At first glance, *ComicBase* seems pretty elementary. It has two main screens: one a description of the title selected (usually complete with a cover illustration); the other a price listing, showing the value of the individual issues of that title, with brief notes on points of interest (such as the appearances and origins we've mentioned). Highlight a particular issue and you get a graph of how it's changed in value over the last four years, so you know how smug to feel if you possess it or how much more despondent if you couldn't afford it in the first place.

But that's not all. *ComicBase* is intelligently interactive, with hypertext links, enabling you to jump to other relevant titles instantly, and a very useful Find function, making it easy to find all those appearances and origins as well as titles (and it covers over 2,000 of those). The only drawback is that with so much data to search, the Find process can be time-consuming. If it turns up several matches and you choose to click on the main screen rather than just move the Find window out of the way, you have to re-do the entire search to find the other matches again.


The Uncanny X-Men
In the age of the atom, more and more children were being born with strange abilities that set them apart from the rest of humanity. These people were known as mutants, and Professor Charles Xavier decided that he must make it his mission to shelter these mutants from society's fears, and to teach them to use their abilities for the good of mankind. Thus, he gathered together the heroes that would become known as the X-Men.
The original X-Men (Cyclops, the Beast, the Angel, and Marvel Girl) were eventually replaced by a new team in Giant Size X-Men #1. That team, which added members Thunderbird, Nightcrawler, Colossus, Banshee, Storm, and Wolverine, would become a comic book sensation.
Readers should note that with issue #142, this series, originally known simply as X-Men (1st Series), changed its name officially to "The Uncanny X-Men."
Marvel

'Description' screens give brief introductions to any of the 2,000 titles covered in *ComicBase*, with hypertext links to other relevant titles.

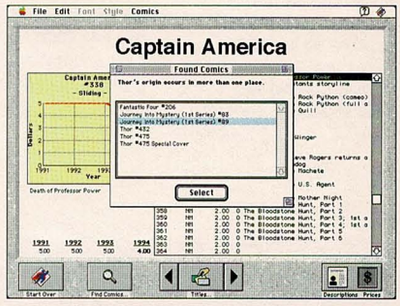


You can search not only for titles but for characters' first appearances, origins, deaths – almost anything, really.

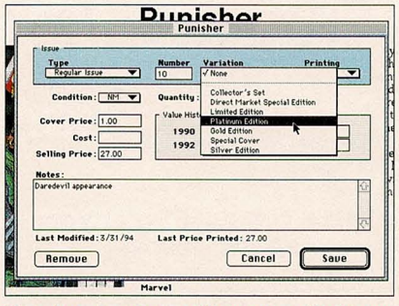
ComicBase comes in three forms: the Encyclopedia of Comics on CD-ROM, a full 'collector's system' on CD and a 'Personal Edition' of the collector's system (the same functions but only 300 titles) on floppy disks.

Both collector's systems are everything a database management system ought to be, and then some. You can modify the *ComicBase* issue lists to catalogue your collection; add issues and update their condition as you buy, sell or swap; generate and print want lists, or price lists and even labels for every copy you want to sell. You can view statistics like how many comics you own, the cost and value of the whole collection, your potential profit if you sold them (don't let your spouse see that) and more. You can even set the program to run a slideshow of your collection, to entice buyers at shows and marts.

Frankly, I'd give the Encyclopedia a miss and go for one of the collector's systems. Apart from the handy cross-referencing and search functions, the Encyclopedia is lightweight by comparison with printed sources: each description is just one page of fannish overview; the covers used for illustration aren't always very significant issues; even the Prices screen lacks years of publication, details of artists and writers, etc – the kind of data that it would need to stand up as a reference resource. But the collector's system is exemplary – a doddle to use, powerful, and breathtakingly comprehensive. When I were a lad, I'd have sacrificed any number of snow-fights for this. No Mac-owning comics collector should be without it. **ALEX SUMMERSBY**



If a search turns up several matches, you can select one to view. Catch is, you have to search again for the others...



The collector's systems enable you to modify the raw listings to build up a catalogue of your collection.

- Price: Encyclopedia CD $69; *ComicBase* CD-ROM (collector's system) $149, or $89 as an upgrade from the Encyclopedia; Personal Edition $89. Out: now.
- Requires: Mac Classic II or better; System 6.0.7 or higher; 2.5Mb of free RAM (4Mb recommended with System 7); CD-ROM drive for CD versions.
- For more details contact Human Computing on 001 408 774 9016.

COLLECTOR'S SYSTEMS 89%

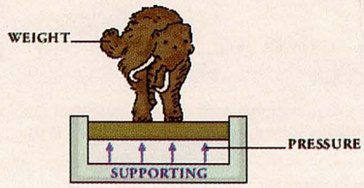
ENCYCLOPEDIA 68%

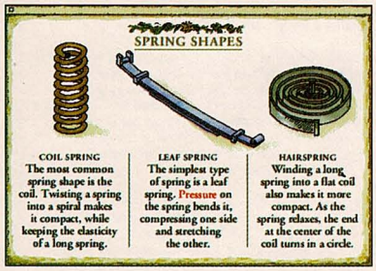
UPDATES

Human Computing offers periodic updates to help you keep up with new releases. So you will never be in danger of losing touch with the comics world. Lucky you.

The Way Things Work

Another book successfully makes the leap to CD-ROM... MACFORMAT dismantles a charming guide to how everyday objects work, and discovers what makes *it* work so smoothly.




SPRING SHAPES
COIL SPRING
The most common spring shape is the coil. Twisting a spring into a spiral makes it compact, while keeping the elasticity of a long spring.
LEAF SPRING
The simplest type of spring is a leaf spring. Pressure on the spring bends it, compressing one side and stretching the other.
HAIRSPRING
Winding a long spring into a flat coil also makes it more compact. As the spring relaxes, the end at the center of the coil turns in a circle.

The program takes the most direct route possible in explaining the differences between types of spring.

If you're the sort of person who takes household objects apart just so you can have a look inside, this program might be of some interest. Not only does it show you the insides of all manner of devices and gadgets, but it also reduces the risk of you putting them back together and finding a couple of spare screws left over.

The idea of *The Way Things Work* is to reveal the secrets behind the magic of everyday objects – how they work and what laws of science enable them to work. From the tiniest electric shaver to the vastness of a jet turbine, most of the machines you know well are here. The CD-ROM, bursting with sound and movement, adds a great deal more to the subject than the book version does.

All the pages of information in the program use a rule of thumb that's so easy to pick up you shouldn't need the manual: if it's red, click it. Words, arrows and parts of the illustrations are highlighted in red: click on these and you will see an extra detail, start an animation, or go elsewhere in the program. The illustrations themselves are rendered in a tastefully-muted colour scheme, and the design feel continues right the way through the program, including video animations. Clearly-drawn cut-away diagrams show exactly how the parts of each device are put together, explaining their workings in precise, simple language.

A woolly mammoth is your playful guide through the proceedings, appearing in the corners of a page to direct you elsewhere. He also stars in the videos that demonstrate the scientific laws covered here, like friction and electricity. The video clips are priceless – the screen dims, cinema-style, as the poor mammoth becomes a living experiment, getting pushed and pulled in all directions for the sake of science.

Check out the rolling demo of *The Way Things Work* on this month's CD

You can look at these machines another way: how the technology behind each device has developed through the years. The History section displays a time chart that you can drop in on to see how the laws of physics discovered in ancient civilisations provided the foundations for the wizardry we take for granted today.

The Inventors section introduces you to the people who discovered these laws, and shows how they applied abstract concepts to create practical applications. Now you know who you have to thank for TV – not to mention computers and CD-ROM, which are also covered.

The Way Things Work is pitched at a level ideal for children. Many a physics teacher, struggling to keep an apathetic class under control, would kill to be this engaging, and parents will be charmed by its quiet humour.

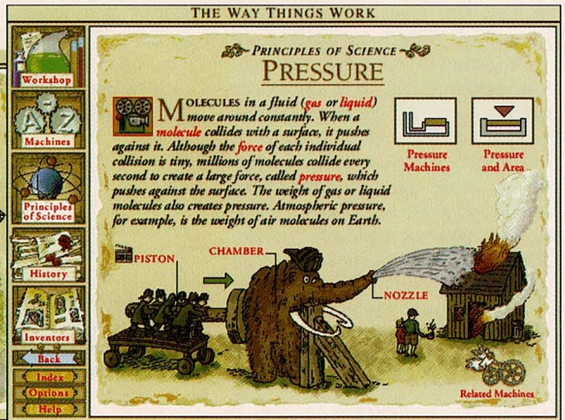
This program is the first Mac CD-ROM from respected book publisher Dorling Kindersley, and it's an impressive debut. The choice of title sums up the directness that goes through the entire program. It's clear that the firm design principles described by the program have been applied to this CD-ROM itself, and the whole thing goes like clockwork.

There's really only one place where *The Way Things Work* breaks down. It may seem ungrateful to say this after all that's gone before but, for a lot of people, £80 is a lot of money to have to pay out at once. Programs that have had this much care and attention put into them cost time and money to create, so it's only fair that some sort of premium should be charged – but does *The Way Things Work* need to be double the typical cost of other CD-ROMs? **RICHARD HILL**

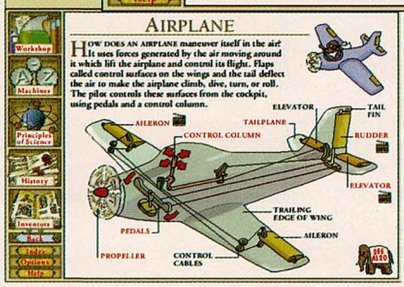
BEST SELLER

The Way Things Work is based on the book of the same name. Written by David Macauly, it's sold over 2,500,000 copies worldwide.

Gangway! If you want to know a little more about wheels, click on either of the two boxes.



That poor mammoth gets suckered into demonstrating all sorts of scientific principles – and it's all for you.



Different sections are labelled down the left-hand side of the screen, so you can go elsewhere at any time.

THE WAY THINGS WORK

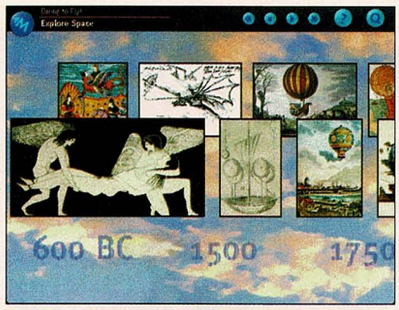
Price: £79.99. Out: now.
Requires: any 256-colour Mac, at least 4Mb of RAM, System 7, a 13-inch screen and a CD-ROM drive.
For more details contact Dorling Kindersley on 0171 753 3488.

FEATURES 90%
The illustrations and video clips blend seamlessly.

EASE OF USE 94%
So simple that you won't need the manual.

VALUE FOR MONEY 79%
A fantastic CD-ROM – if you can afford it.

MACFORMAT RATING 86%



From the scrolling Explore Space screen you're able to click to explore the links with other elements.

Daring to Fly

Icarus meets the Wright brothers in this entertaining chronicle of man's attempt to take to the clouds.

Daring to Fly tackles the subject of aviation history with gusto: it claims to cover every aspect of flight, from Icarus and his wax-and-feather wings, to The Red Baron. It uses hundreds of stills, 45 minutes of QuickTime clips, and over two hours of narration and sound.

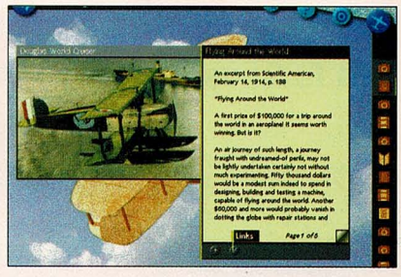
Despite all the material on board, *Daring To Fly* still gets off the ground easily; it offers a quick way of accessing information via its Explore Space option. This enables you to browse the entire contents of the disc at random, and grab movies and pictures as they pass by on screen. You can then call up thematic links between items simply by clicking on the icons that depict them.

In the Main menu, you're able to choose whether to embark on a guided tour of the historical lineage of aviation, or set out on your own journey of discovery. Either way, you can choose to access a wide range of topics, exhibits, stories, tours, libraries and galleries that are on offer. This hypertext linking between items is excellent.

You might start, for instance, by grabbing a picture of Mme Blanchard hovering over Paris in a balloon in the 1850s. You could then choose to explore, for example, women's contributions to aviation history, or go for the early attempts to cross the English Channel by balloon and plane. Choosing the latter will link you to Louis Bleriot, and you can sit back while a 15-page, full-screen documentary proceeds to play. This mix of interactivity with television-style passive viewing works very well. In short, *Daring to Fly* is great as an educational title.

ANDY STORER

Here we've clicked on the Links button to see what connections to other elements this item has.


Flying Around the World
An excerpt from Scientific American, February 14, 1914, p. 138
"Flying Around the World"
Links
Page 1 of 6

DARING TO FLY

Price: £39.99. Out: now.
Requires: LCII or better, 4Mb RAM, System 7.0 or later, 13-inch colour monitor, double-speed CD-ROM drive.
For more details contact Maxis on 0171 490 2333.

MACFORMAT RATING 79%

Wild Blue Yonder

Warplane spotter heaven: a multimedia fly-by of the most famous shiny combat planes of the last five decades.

Subtitled 'Episode 1: 50 years of Gs and Jetzs', *Wild Blue Yonder* is a reference work featuring 20 of this century's best and baddest aircraft. It's divided into four main sections: Jet Age, Vietnam, Desert Storm and Tomorrow.

QuickTime action footage, complete with a voice-over, introduces each plane, and you're then able to access illustrations, photographs and charts detailing the aircraft's specifications, performance and cockpit layout. Since all the planes are military ones, there's also material on their weapons systems and deployment.

There's even a Black Box section giving information on crashes. Along with the text screens, supplementary photos, interviews with project personnel, and scrapbook (which includes a dozen or so additional stills with handwritten captions), it all adds up to a pretty comprehensive overview.

What would otherwise be a standard point-and-click affair is transformed into a seamless multimedia mix thanks to ambient sounds, which range from engines powering up to swathes of typically American synth muzak. But for me, the inclusion of music from Robert Cray, The Scorpions, and Norman Greenbaum, overlaid with war reports and presidential speeches, only reduces the whole affair to gung-ho Yankee back-slapping.

Yet *Wild Blue Yonder* is well-produced multimedia. It's easy to navigate, it responds quickly to whatever path you explore, and it combines well-researched detail with high quality video and still photographs. So if you're into military aviation, then check it out.

ANDY STORER

The contents screen illustrates all the aircraft on offer. But what about UK planes like the Harrier Jump Jet?

The scrapbook section has snaps of the pilots and designers, plus their own captions and voice-overs.

WILD BLUE YONDER

Price: £49.99. Out: now.
Requires: any colour Mac, 2.2Mb free RAM, System 6.0.7 or later, 13-inch colour monitor, double-speed CD-ROM drive.
For more details contact Softline on 0181 401 1234.

MACFORMAT RATING 76%

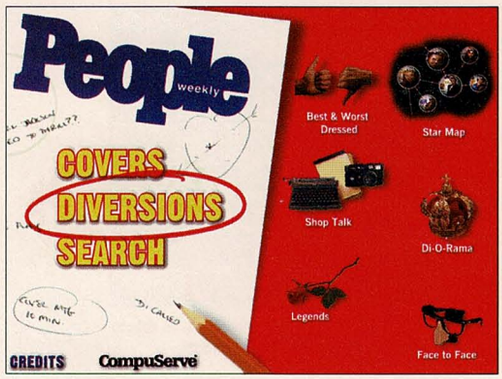
MORE PLANES

If you're keen to get hold of yet more warplanes on CD-ROM then take a look at *Warplanes*, which we reviewed in MACFORMAT 21.

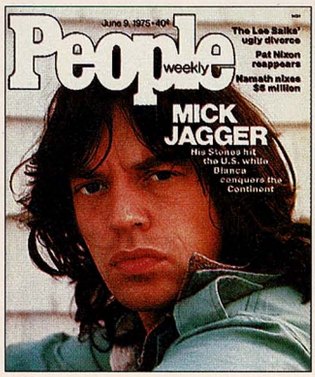
People Weekly

20 years of Pop Culture

Forget about the glamour and the glitter of the rich and famous – this CD-ROM gives you all the grit.



So here we are in downtown Tackyville, just dying to explore the darker side of the rich and famous...


People weekly
The Lee Salks' ugly divorce
Pat Nixon reappears
Nanath nixes $6 million
MICK JAGGER
His Stones hit the U.S. while Bianca conquers the Continent

People magazine isn't very well known this side of the Pond, so let's just say it's rather what you'd expect from a down-market American tabloid version of *Hello!* But what's on offer here isn't just sycophantic glimpses of the life-styles of the rich and famous; we see the flip side of stardom too.

There's everything from a fashion photo gallery of the stars who 'sagged' the most, to the actual audio of Di's notorious 'Squidgy' tape. You're even offered such delights as morphs of Liz Taylor's waistline as she progressed from Burton to Fortensky. Like it or not, you can't fail to be impressed by its sheer tackiness – and during your exploration of this disc, you come up with quite a few juicy titbits.

Try before you buy – there's a rolling demo of *People* on the CD-ROM

People is divided into three main sections: Covers, Diversions and Search. Covers is pretty straightforward – just full screenshots of the highlights from 20 years. It can be quickly passed over, once you've clicked on a couple of icons that call up Q&A trivia quizzes and the original text of the main cover story.

It's the Diversions section where things begin to hot up a little. You'll find: the 'Di-O-Rama', 'Best and Worst Dressed', 'Shop Talk', 'Legends', 'Face to Face' and 'Star Map' sub-sections. I headed straight to the Di-O-Rama to check out the real squidge factor of *that* tape and then had a quick browse through the dirt on Charles and Diana.

But the morphing sequences in 'Face to Face' are worth a look too. You can see

Lebanon

Pearl of the East

Tourist information on disc – *Wish You Were Here* eat your heart out.

Pearl of the East contains most of what you'd expect from a tourist CD-ROM on the Lebanon – each of these categories provides an overview of its respective subject, accompanied by stills, videos and lots of great music.

Well, it had to happen sooner or later – a CD-ROM promoting tourism. It's just that you'd never have thought that the Lebanon would be the obvious place to start.

There's more here than your average tourist guide: *Pearl of the East* covers Lebanon's economy, administration, and tragedies, as well as its history, culture, resorts, and heritage. You're also supplied with info on currency, and anecdotes of where to go and what to see – all packed up in one easy-to-use little excursion on a Mac near you. So it's a pity that there's no beginner's guide to the language, and that much of the material is confined to stills and graphic animations.

However, there are a few dozen QuickTime movies (of inconsistent quality) and, best of all, plenty of soundtracks of Bazookis and flutes, providing some much needed atmosphere. In fact, it is the musical aspects that are treated the best of all – with sections on different musical instruments and lengthy samples of them being played.

I'd imagine that the usual everyday tourist would only benefit from this disc if it was available from their local library. It really is specialised stuff. But would you want to go there on the strength of the material on offer here? Well, yes... but it'd all depend on what kind of escort you had.

ANDY STORER

The production is let down by screens like this, which is meant to cover Lebanese nightlife. You just get a shot of a casino, with a video zooming in and out on the exterior of the building.

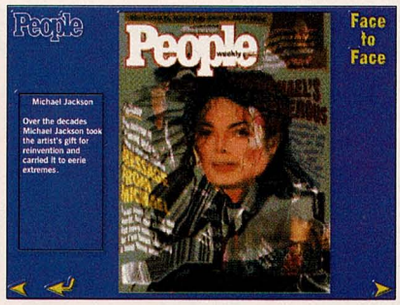
THE LEBANON

Price: $45 inc p&p. Available by mail order.
Requires: a colour Mac, 4Mb of RAM, System 7.0 or later, a 13-inch colour monitor or larger and a double-speed CD-ROM drive.
For more details contact Future Publishers (no relation) on 001 212 444 8372.

MACFORMAT RATING 68%

People
Windsor Nat!
IT'S OVER
DIANA'S SECRETS
DIANA MAKES A DEAL
DIANA ON HER OWN
BATTLE OF THE BOYS
Di has a kissy-kissy phone chat with an admirer on the "Squidgy tape"

...First off, Di-O-Rama. Okay, so she may have graced more covers than any woman ever, but I want some gossip. So I'll just listen to that 'Squidgy' tape.


People
Face to Face
Michael Jackson
Over the decades Michael Jackson took the artist's gift for reinvention and carried it to eerie extremes.

Here, Michael Jackson is being morphed from a young Afro-Caribbean into something barely recognizable as human. Shame about fame, eh?

Here you can choose the most bizarre search criteria from the hundreds of permutations on offer. It really does represent the ultimate in sleaze.

how Michael Jackson has changed beyond recognition between covers spanning 20 years; or see Marilyn Monroe morph into Meryl Streep and then Sharon Stone. Yep, it's all good fun in a rather bitchy kind of way.

The Star Map section is also good fun, purporting to show the somewhat tenuous emotional connections between practically every Hollywood icon who's ever graced a cover.

But pride of place just has to go to the Search area. Here you're able to choose from a diverse list of nouns and adjectives, covering everything from royalty to pornography; sports to show biz; medical problems to politics; and hunks and babes to notoriety... You can then see whether any *People* covers have ever met the disc's Search criteria. Even in your wildest dreams you don't expect some of the mixes to come up trumps, but then again, the results can be surprising!

People is harmless fun, and at this price it's worth a look. It just depends on how scurrilous a sense of humour you have. *People* is not flashy, and it's not sophisticated, but it has a definite squidgy quality that the dry world of CD-ROM could do with a little more of.

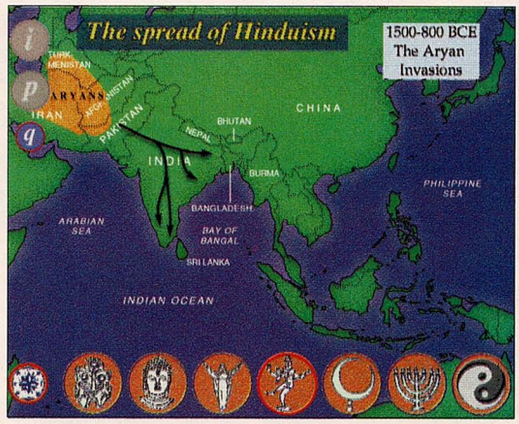
ANDY STORER

PEOPLE WEEKLY

Price: £29.40. Out: now.
Requires: any colour Mac, 5Mb of free RAM, System 7.0 or later, a 13-inch colour monitor, and a double-speed CD-ROM drive.
For more details contact Softline on 0181 401 1234.

MACFORMAT RATING 76%

Sources of Faith



The historical maps are perhaps this disc's best feature. Animated displays with voice over narration describe each religion's growth.

Get an overview of the seven major religions of the world with this unbiased and informative CD-ROM.

Sources of Faith gives a secular view of the philosophical, cultural and historical aspects of seven of the world's major religions. It illustrates how Animism, Buddhism, Christianity, Hinduism, Islam, Judaism and Taoism have shaped the world in which we live today.

There's an interactive demo of *Sources of Faith* on the CD-ROM

Each religion is represented by a symbol, which you can click to reveal eight sections containing further information about each faith. There's a brief slide-show introducing each religion; a genealogy of its development; a series of annotated maps with voice overs explaining each religion's geographical growth; and an overview of the days of religious observance throughout the year.

There are also sections on the art and scripts representing cultural iconography, plus brief coverage of the fundamental precepts underlying each faith. This is topped off with a look at the beliefs concerning life and death, and a round-up of the deities worshipped by the initiated.

But although the coverage is wide-ranging, there isn't enough detail on any of the aspects of each individual faith. It's a shame, because as an educational resource, *Sources Of Faith* does have undoubted worth. The approach used is introductory, pitched at the early secondary school age rather than tertiary level. But if you do have an interest in religious history, this CD-ROM could prove to be quite useful.

ANDY STORER

From the icons representing the religions you can access eight different topics. Here we're looking at Taoism. Click on a cloud to call up a brief description of each god.

SOURCES OF FAITH

Price: £57.60. Out: now.
Requires: a colour Mac, 4 Mb of free RAM, System 7.1.2 or later, a 13-inch colour monitor and a double-speed CD-ROM drive.
For more details contact KimTec on 01202 888873.

MACFORMAT RATING 60%

CD DIRECT

THE CD ROM SPECIALISTS

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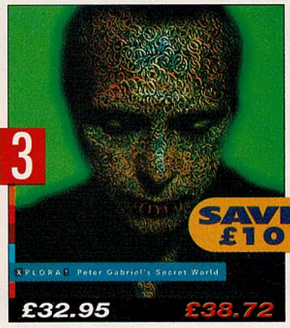

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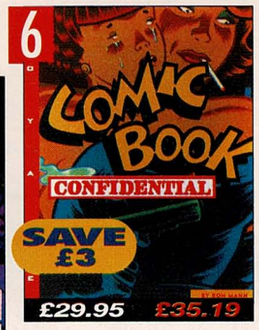

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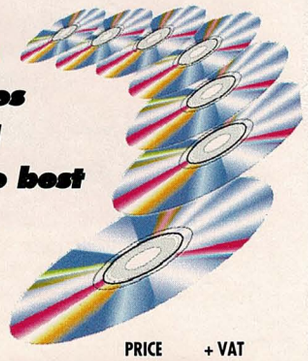

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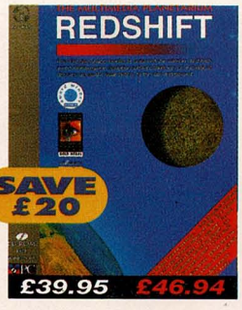

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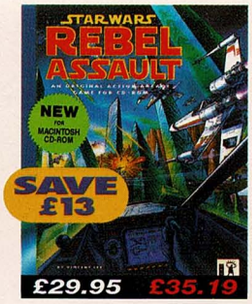

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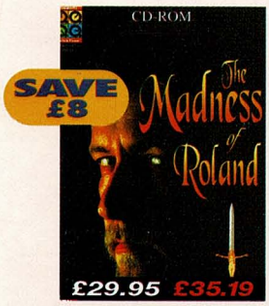

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FreeHand 5.0 V Illustrator 5.5

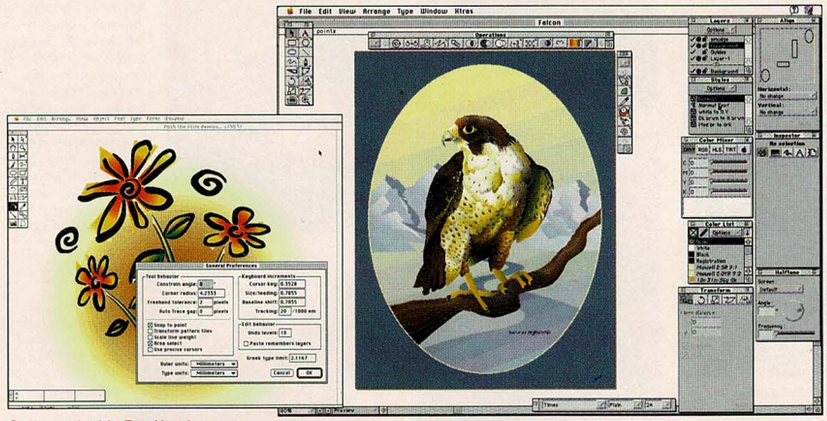
Which one should you buy? Marcus Dyson takes both the industry-standard graphics and illustration packages through their paces to see which one comes out tops...

Check out the demos of *FreeHand 5.0* and *Illustrator 5.5* on the CD-ROM

Much like the Mac DTP market, Mac structured drawing is a two horse race. Sure, there are other contenders, rank outsiders and no-hopers. But since 1988 *FreeHand* and *Illustrator* have been way ahead of the field, with one or other leading by a nose. A visit to any professional design studio will reveal one, or both, of these programs in full time use.

Some fans of *Illustrator* have claimed that it's more intuitive to use. This may have been the case in the past, but recent versions of *FreeHand* have seen it catch up with *Illustrator* for ease of use, while adding many useful features. More recently, both programs have begun to offer advanced text importing and formatting functions to appeal to the small scale DTP user, who would normally require both drawing and page layout packages. The idea is for *Illustrator* and *FreeHand* to preclude the need for a DTP program.

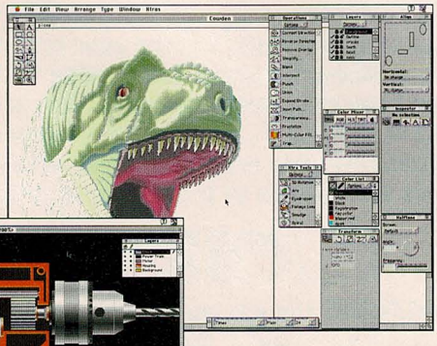
Here we hold the packages up side by side and compare their features.

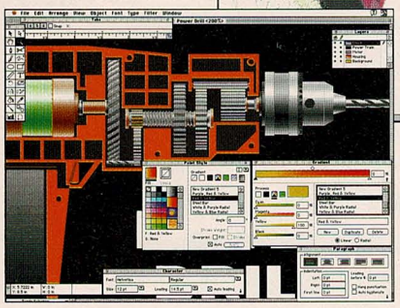


Compared with *FreeHand*, *Illustrator's* interface looks dated, and offers little in the way of user configurability.

The new *FreeHand* interface is very easy for you to configure. Here we see the Xtras palette displayed as a Tall Bar and the Operations palette displayed as a Wide Bar around the illustration.

FreeHand 5.0, now published by Macromedia, takes a bold step away from the Mac interface guidelines to provide a dramatic new look. Fortunately, the interface works as well as it looks.





Illustrator 5.5 has not been updated, nor are plans afoot to update it in the very near future. But Adobe must be working hard on the next version after seeing *FreeHand 5.0*.

Interface

One of the things that makes the Mac so user-friendly is the unfailing way in which all programs comply with Apple's human interface guidelines. What this means in practice is that whenever you pick up a Mac program you know how it is going to look, and usually where to find any particular feature.

Usually when a program breaks these rules it looks out of place, and, well, a bit cheap and tacky. But Altsys has broken all the rules to provide *FreeHand 5.0* with a completely new-look interface. Out goes the clean white look of the traditional Mac front end, and in comes a flash new 3D-effect interface. And guess what? It really is very attractive!

But the *FreeHand* interface has not only changed visually, the functionality has been enhanced too. *FreeHand 5.0* follows the current trend for programs to bring their features out from within the menu structure and put them on 'modeless' floating palettes on the desktop. *[See the 'Secret Weapon' story in MacroScope on page 28 to hear Kai Krause's opinions on this subject – Ed]* While *Illustrator* also supports this simple and powerful way of working, it does so far less extensively than *FreeHand* – and the package's ease of use suffers because of it.

One little thing: I have a 17-inch monitor, and *FreeHand* recognises this. It opens new documents at full screen and distributes the palettes accordingly. *Illustrator*, on the other hand, opens new documents in the top left of the screen, positioned for the more common 640 x 480 screen resolution. A small thing, perhaps, but a significant one, I think.

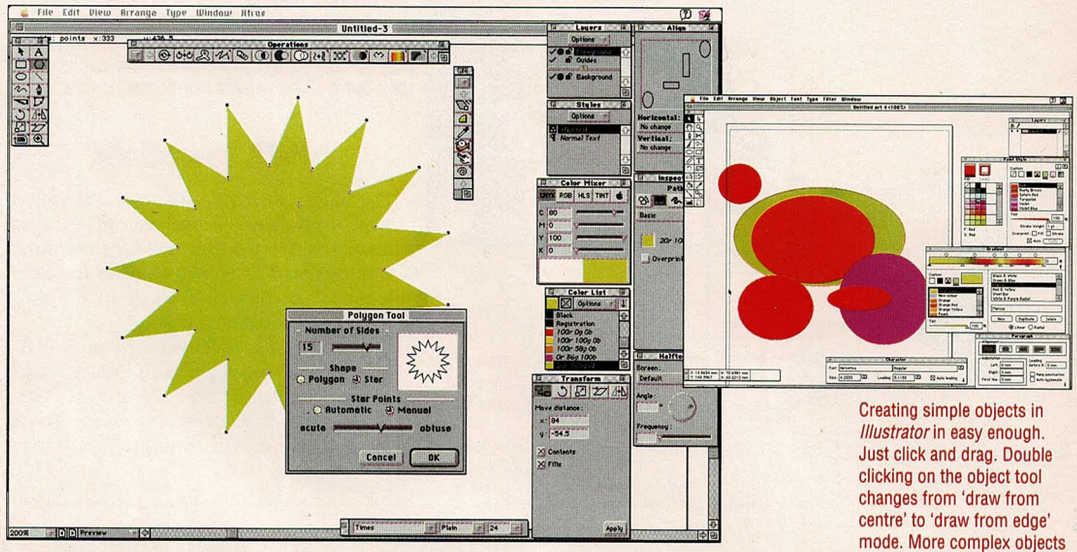
FREEHAND 5.0	90%
ILLUSTRATOR 5.5	70%

Object creation

Both *FreeHand* and *Illustrator* go about object creation in ostensibly similar ways. You select the appropriate tool from the tool-bar and draw the appropriate object by point-clicking. For simple objects, such as ellipses, rectangles and freehand lines, there is little or no difference between the two packages.

But when more complicated shapes are drawn, *FreeHand* begins to show its superiority. Not only does Macromedia's package offer a configurable polygon tool, it also offers far greater flexibility and ease of use in its spiral- and bezier-curve-drawing features. *Illustrator* doesn't exactly fall at this particular technical fence, but it does end up losing a fair bit of ground to *FreeHand*.

FREEHAND 5.0	90%
ILLUSTRATOR 5.5	70%



With *FreeHand*, even complex objects can be created simply. The polygon tool is highly configurable, but still works with a simple click and drag.

Creating simple objects in *Illustrator* in easy enough. Just click and drag. Double clicking on the object tool changes from 'draw from centre' to 'draw from edge' mode. More complex objects are not so easily created, though.

Object manipulation

Once polygons have been created, *FreeHand* goes about making changes to them in an altogether more intuitive manner than *Illustrator*. *FreeHand* has one selection tool to *Illustrator's* three, but suffers no loss of functionality due to this 'shortage'. Resizing an object in *FreeHand* is a simple matter of click-dragging on a grab handle; *Illustrator* requires you to select a separate tool.

Illustrator's placing of the blend tool in the main tool panel is clever, but *FreeHand 5.0* matches this by placing its blend feature in the new Operations palette.

Rotating or reflecting objects in *FreeHand* is also easier as the program gives a clear indication of the axis of reflection or rotation. *Illustrator* doesn't, and as a result these basic manipulations become much more haphazard affairs.

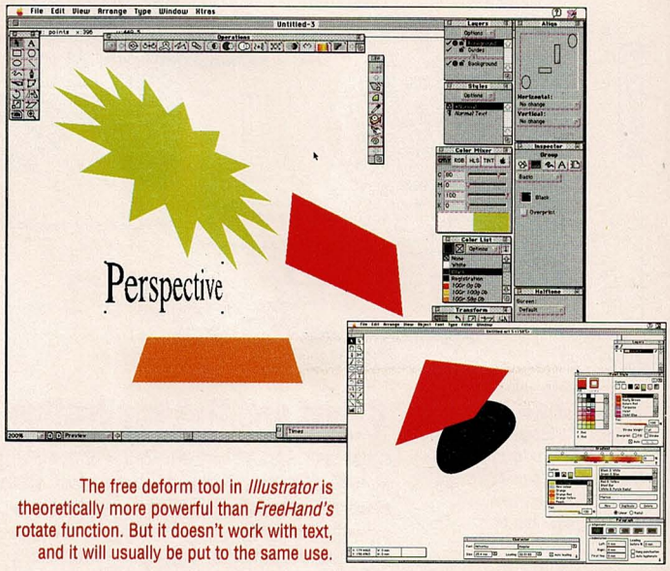
FreeHand's new open architecture opens the door to developers to create all kinds of new object-editing tools – such as the 3D rotate tool, which ships with *FreeHand 5.0*. This tool can interactively create perspective effects, as if the selected object had been rotated in 3D space.

FreeHand's new 3D rotate tool makes creating perspective effects simple – something that was sadly lacking in earlier versions.

The confusing thing is trying to get a 3D rotated object 'back' to its original shape. As soon as the operation is carried out, the object becomes a new 2D shape, and no amount of re-3D rotating will ever restore it. If you've spent much time working in 3D modelling packages, this takes you back a bit at first.

Illustrator's free distort tool enables similar effects to be produced, but demands more user skill to get equally realistic perspective effects.

FREEHAND 5.0	90%
ILLUSTRATOR 5.5	60%



The free deform tool in *Illustrator* is theoretically more powerful than *FreeHand's* rotate function. But it doesn't work with text, and it will usually be put to the same use.

Continued on next page

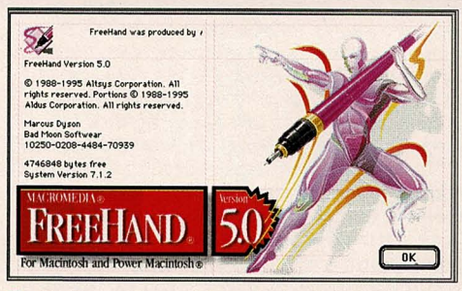
FREEHAND CHANGES HANDS

For years, *FreeHand* was published by a company called Aldus. In fact, I still tend to think of it as *Aldus FreeHand*. *Illustrator* has always been published by Adobe. But in early 1994, Aldus and Adobe began negotiations that would result in a 'merger'.

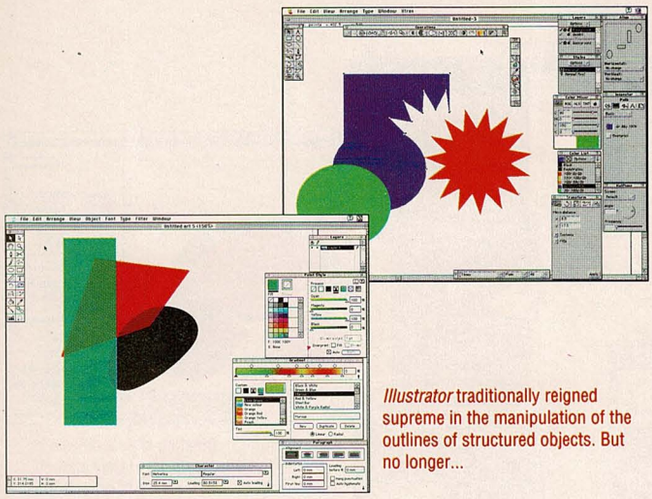
Altsys, the creator of *FreeHand*, was not happy that its product should go to the creator of the main competition. Altsys appealed to the Federal Trade Commission (the American equivalent of the Monopolies and Mergers Commission), which decided that such a merger would create a monopoly in the area of high end design illustration software. It ruled that control of *FreeHand* must revert to Altsys.

But while Altsys is an innovative and creative software engineering company, it's small; it does not have the huge infrastructure required to distribute, market and support a major international product. So it signed a deal with Macromedia, which has a huge range of quality software but was lacking a structured drawing package in its portfolio.

So now *FreeHand* bears the Macromedia name, and enjoys the benefits of being part of a large, well supported product range. The fact that this range consists mainly of multimedia authoring software may raise a few eyebrows. But a structured drawing package will sit well alongside Macromedia's 3D programs.



FreeHand's attractive new information box is the result of a short but convoluted battle for control of the product, which saw Aldus lose distribution rights to Altsys, then Macromedia.



Both *Illustrator* (far left) and *FreeHand* (near left) now have advanced path operations. They can both apply transparency effects, and they can both combine outlines to form new, more complex, shapes. *Illustrator* has the edge on sheer performance in these areas, but *FreeHand* again delivers what power it has more accessibly.

Illustrator traditionally reigned supreme in the manipulation of the outlines of structured objects. But no longer...

Path operations

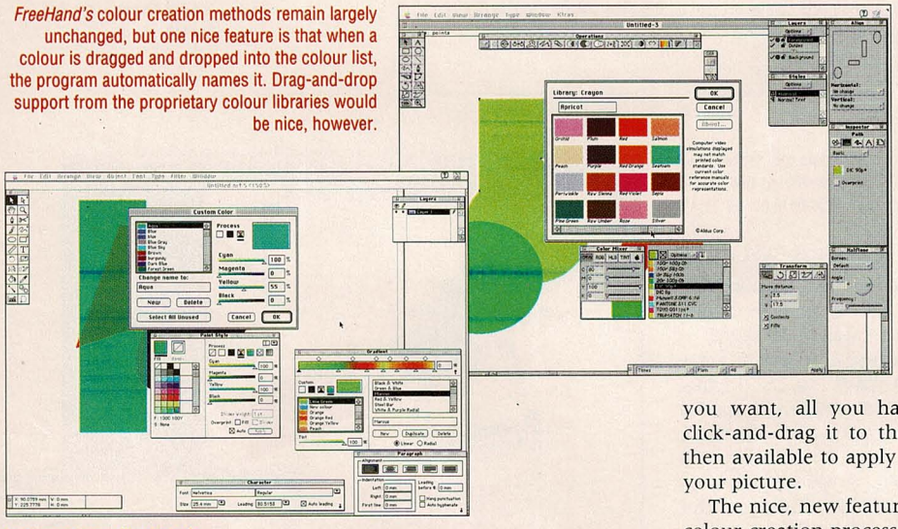
The ability to manipulate the outlines of structured objects is one area where *Illustrator* has reigned supreme for some time. But version 5 of *FreeHand* offers the same features as *Illustrator* in a more user-friendly, accessible manner.

Both of the packages can now combine two or more paths to create a new shape, or 'punch' one shape out of another. While *Illustrator* probably boasts more power in this area, *FreeHand's* new interface once more renders its features more accessible, and thus more useful.

The extremely useful scalpel tool introduced in *FreeHand 4* has been improved for this latest version. Before, it could perform straight line cuts between any two points, but now it enables the user to make freehand cuts of paths. *Illustrator's* Scissors tool works in the same point-and-click fashion that *FreeHand's* scalpel used to, but sections of objects cut with it retain the fill style of the parent object. *FreeHand's* open paths, however, lose their fills, and at certain times this can be handy.

FREEHAND 5.0	90%
ILLUSTRATOR 5.5	90%

FreeHand's colour creation methods remain largely unchanged, but one nice feature is that when a colour is dragged and dropped into the colour list, the program automatically names it. Drag-and-drop support from the proprietary colour libraries would be nice, however.



In comparison, *Illustrator's* colour creation features are limited. The functions of the 'Custom Colour' menu and the Paint Styles palette could easily have been combined into one requester box.

Colour creation/application

Creating colours in *FreeHand 5.0* could not be simpler. I would have said that about *FreeHand 4*, but it's been made simpler still, so I would only have made myself look stupid. You can choose to mix in the CMYK, RGB, HSL, Tint or Apple colour palettes. Making a colour is simply a matter of moving the slide handles until the correct values are reached; the main colour well changes interactively as you do this. In some cases, creating a colour merely requires you to click on a colour wheel. Once you get the colour that you want, all you have to do then is click-and-drag it to the colour list. It is then available to apply to any element of your picture.

The nice, new feature of *FreeHand 5.0's* colour creation process is that once it appears in the colour list, the program automatically names the colour something logical like 100r 0g 0b. Unfortunately, the RGB designation is used to describe colours even when they are created in the CMYK model, though this isn't disastrous as they are user editable.

In addition to the user-definable colour options, *FreeHand* also offers the user the choice of a stunning array of proprietary colour selectors. These selectors include Focoltone, Pantone, Munsell, TruMatch and Toyo.

Illustrator's colour creation system works in the same way as *FreeHand's*, but is less powerful and not so friendly. *FreeHand's* drag-and-drop support extends to applying colours to the fills and borders of objects at any time, using an intelligent guess system (which reacts to the position of the mouse pointer when the colour is dropped); in *Illustrator*, however, the relevant part of the object (fill or border) must be activated in the 'Paint style' window before the result that you want can be obtained.

Both programs offer remarkably similar methods of creating a multicoloured, graduated fill, but *FreeHand's* are not very robust when effects are applied to the object that contains the fill. On the other hand, *FreeHand's* drag-and-drop support provides interactive updating of blends and graduated fills, while *Illustrator's* drag-and-drop does not.

FREEHAND 5.0	90%
ILLUSTRATOR 5.5	50%

THE LURE OF THE SHINY CD-ROM...

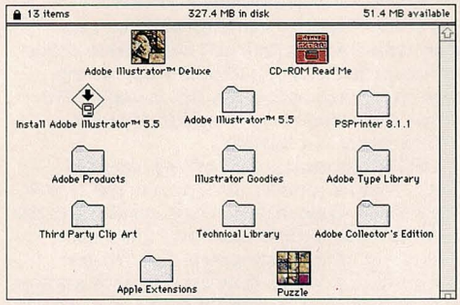
As with its *Photoshop* program (reviewed in MACFORMAT 22), Adobe has included a CD version of *Illustrator* in the box along with the floppy version. This 'Deluxe' CD not only gives the CD user the opportunity to install *Illustrator* quickly and without any annoying disk-swapping, but it also carries a selection of other files.

There is the predictable selection of demos of other Adobe products, including *Photoshop* and *Premiere*. But more importantly, there is also a huge selection of support files for *Illustrator*, a set of tutorials, a set of foreign language spelling dictionaries, new PostScript printer software, and a huge selection of typefaces from the Adobe Type Library. This last item will probably be the greatest incentive to buy, especially as the faces are all quality ITC fonts.

Unfortunately the CD lacks the powerful and friendly on-line documentation that was included on the *Photoshop* 'Deluxe' CD.

The inclusion of this CD may indicate that Adobe is aware that it is pushing the inferior product, or it may just signify a policy to include 'Deluxe' edition CDs across its entire product range. Either way, it *is* a powerful incentive to purchase its software.

It is particularly ironic that Macromedia has elected not to include a CD with *FreeHand*, since it has previously used the demo CD to some effect in its marketing strategies.



As with its *Photoshop* product, Adobe has accompanied *Illustrator* with a 'Deluxe' CD edition.

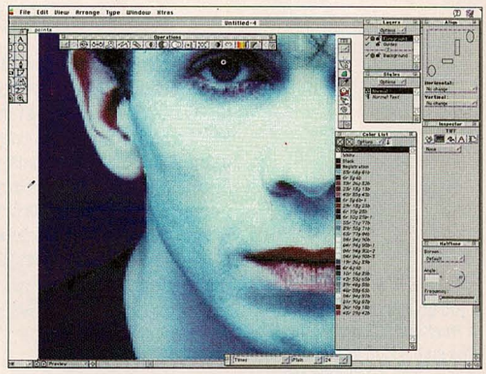
Bitmap import features

Importing bitmaps into drawing packages is a memory intensive action, especially when it comes to printing them out. There are times, however, when it is unavoidable. When those occasions occur, *FreeHand* will enable you to import PICT, TIFF and EPS bitmaps.

Illustrator's ability to import bitmaps isn't bad, but it suffers in comparison with *FreeHand's*: it can only handle TIFFs.

A new feature of *FreeHand 5.0*, and one I have been waiting for for years, is the eye-dropper tool. This new drop-in feature from the Xtras palette enables you to choose a colour from a placed bitmap or TIFF just as if you were using the eye-dropper in a paint package. The colour can then be dragged and dropped to the mixer colour well, or directly into the colour list. This makes colour matching logos to a picture a doddle. It really is a superb feature and will be very much appreciated by designers everywhere.

FREEHAND 5.0	90%
ILLUSTRATOR 5.5	70%



FreeHand's new ability to pick up colours from an imported bitmap and deposit them in the colour list will be invaluable to designers everywhere. A facility to sort the colour list would be useful, though.

File formats

FreeHand can open *Illustrator* files; *Illustrator* cannot open *FreeHand* files. That is the simple message conveyed by this comparison. And *FreeHand* doesn't stop there: it can also save in *Illustrator* format, plus in generic, Mac and PC EPS files and PICT files, and it can also export ASCII and RTF text too.

What this means is that if you have to supply images to a third party, then if you're using *FreeHand* you can be sure that you can write in a format they can read. With *Illustrator*, it's often going to be a gamble. But *Illustrator* can create documents in the Acrobat Portable Document Format, which may be of interest to users with specific needs.

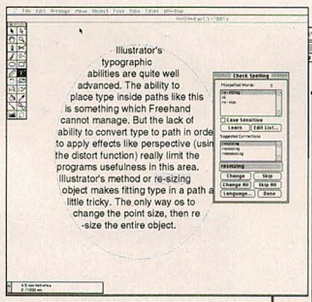
FREEHAND 5.0	90%
ILLUSTRATOR 5.5	70%

Typographic functions

Both *FreeHand* and *Illustrator* fall badly at this hurdle. If both packages seriously expect to be used as page layout tools, they have to re-think completely the way in which they handle large amounts of text. Both programs are excellent at handling small amounts of type – basically anything you would want to sit and type directly into the program. But where larger amounts of text are concerned, neither package has the required text formatting features to be taken seriously.

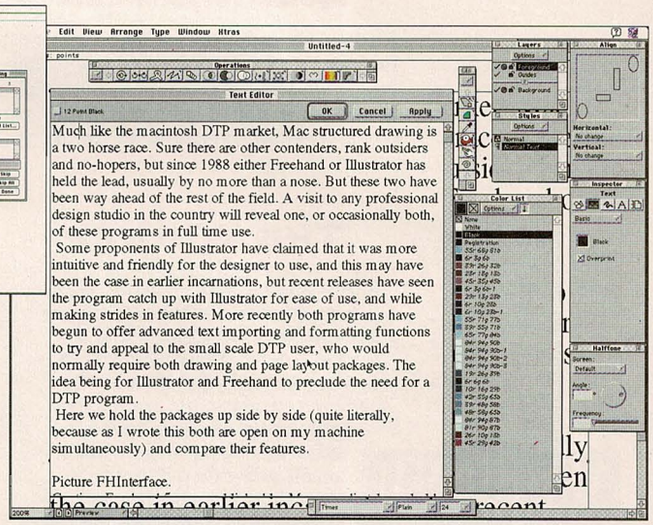
When it came to importing a text tile, *FreeHand* did so faultlessly, but *Illustrator* flashed up: 'Please check that the Claris XTND system is installed properly'. But given that I had just performed a 'full' installation of *Illustrator 5.5* and all my other applications are importing text correctly, I'd really rather not have to.

Both packages now sport effective spelling checkers, and *FreeHand* even has a 'text editor', which is supposed to assist in the entry and editing of large quantities of text by avoiding the redraw penalties that would be incurred if the text was edited in a drawing document. But since the spelling checker does not work in the text editor window, the effectiveness of this feature is severely impaired.



Illustrator has some nice typographic functions. The ability to place type inside a path is very useful.

FREEHAND 5.0	60%
ILLUSTRATOR 5.5	50%



The in-built word processor in *FreeHand* is a must if Macromedia hopes to crack the small-document page layout market. But the fact that the spelling checker does not work in conjunction with it renders it a little pointless.

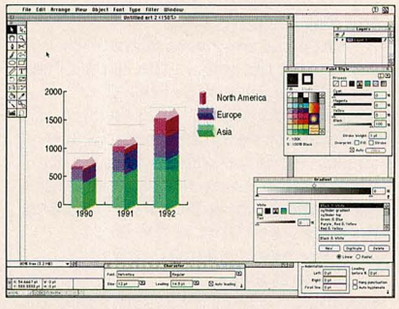
Numeric functions

Numeric functions might sound like a strange category to have in a drawing package review, but one of the more frequent applications to which these packages are put is the creation of graphs. While *FreeHand* users will have to rely purely on the package's general ease of use to make this odious task more simple, *Illustrator's* users can smile smugly as the program takes care of it all automatically.

Once the graph tool is selected, you just drag an area to define the graph size, and hey presto! A simple bar graph is generated in next to no time. Pie charts, line graphs, and just about any other sort of graph you failed to learn about in O-level maths are included too.

Sadly, although the graphing function enables you to create impressive-looking graphs with custom designed 'bars', this feature is unnecessarily complicated to use. Producing anything beyond a simple graph takes real tenacity.

FreeHand lacks anything to compare with this feature, which makes this rather a one sided comparison, but the modular structure of *FreeHand 5.0* means that Macromedia or any third party can produce this function as an Xtra at a later date. (If anyone from Macromedia is reading this, that's a hint. Just don't make it too much later, guys!)



Drawing graphs must be one of the most loathsome tasks a structured drawing package is ever put to. *Illustrator* handles all the calculation, and much of the drawing, for you.

FREEHAND 5.0	0%
ILLUSTRATOR 5.5	70%

Continued on next page

Additional features

Any program can stand or fall by how well it responds to changes in customer demand. The fact that *FreeHand* has not just 'adapted and survived' but actually gained ground on *Illustrator* is a good example of this. So perhaps the most important aspect of *FreeHand 5.0* is its new, open architecture design. What this means is that little sub-programs called Xtras can be added to *FreeHand* in the same way as *Photoshop* Plug-ins or *QuarkXPress* XTensions. The format of these Xtras is being made available by Macromedia so that third party companies can develop them. This means that any niche market requirement of *FreeHand* can easily be addressed, which should give the product a wider appeal and longer lifespan.

FreeHand 5.0's open architecture and Xtras menu have really raised the stakes in terms of additional features. Not only does the package come with a selection of Xtras, but the market will surely fill with more in the coming months. Tools like the fish-eye lens, 3D rotate, eye-dropper and smudge are just the beginning.

Illustrator boasts a similar open architecture with its Plug-in features, but these aren't as powerful or as flexible.

WIN
A copy of *Illustrator 5.5* – see page 138 for details

FREEHAND 5.0	80%
ILLUSTRATOR 5.5	60%

READER'S TIP

If you go into the **About** box in *FreeHand 5.0* and **[option]** click on the icon in the left-hand corner, a coloured line shoots out from the icon and rebounds off the inside edges of the **About** box. The more you click, the more lines shoot out, all in different colours and directions.

Edward Callan, Dublin

Speed

One thing that shines through in everything *FreeHand* does is its sheer speed. Having used earlier versions of both the programs, I have frequently been exasperated by their lethargic speeds. *Illustrator* remains annoyingly slow at times, but most actions in *FreeHand*, from full screen redraws down to the application of blends and fills, happen a good deal quicker – not just quicker than its own earlier versions but also quicker than the current version of *Illustrator*.

FreeHand is quoted as being between five and 15 times quicker than *Illustrator*, and having used the programs, this sounds very plausible. I don't think I drummed my fingers once.

Both programs are accelerated for Power Macintosh – *FreeHand* noticeably more so than *Illustrator*!

FREEHAND 5.0	90%
ILLUSTRATOR 5.5	60%

System requirements

A complete installation of *Illustrator* takes just over 13Mb of hard disk space, and *FreeHand* uses a megabyte less. Both really require a 68030 processor (LCII) or better, running system 6.0.7 or above, with system 7 being recommended. *Illustrator* requires a minimum of 3.1 (!) Mb or RAM, with 5 being the advised minimum. *FreeHand* is a little more demanding, requiring at least 5Mb of RAM.

Neither program is very demanding by today's standards – especially compared with image manipulation programs like *XRes* (reviewed on page 72).

FREEHAND 5.0	90%
ILLUSTRATOR 5.5	90%

THE WINNER

MACFORMAT Classic

At this stage, *FreeHand* would seem to have the upper hand on *Illustrator* in the majority of areas. While the programs have little to separate them in terms of the images that can be created with them, the *FreeHand* interface is much more attractive, and offers a good degree more functionality than *Illustrator's*.

Getting used to a new program is expensive in terms of time, particularly for professional users. So owners of earlier versions of either program are unlikely to be swayed to convert by these latest revisions. But in the vital fight for new users, while Macromedia has the far superior program, Adobe has a very enticing package.

When the programs place such similar results within the reach of the user, *Illustrator's* nice shiny CD, packed with high-quality fonts, could easily sway the potential purchaser. If Macromedia beefed up its presentation, there really would be no competition. After being neck and neck for some time in the race to offer the best structured drawing program, it looks like *FreeHand* is leading by a length – at least. But don't just take my word for it: try out the save-disabled demos on this month's CD-ROM and then you can decide for yourself.

FREEHAND 5.0

Price: £528.75.
Requires: Mac IIci or better (accelerated for PowerMac), System 6.0.7 or later (System 7 rec'd), 5Mb of RAM, 12Mb hard disk space.
For more details contact Computers Unlimited on 0181 200 8282.

FEATURES 92%

FreeHand 5.0 offers far more features than previous versions with the additions of Xtras, the new path functions, multi-colour gradients…

EASE OF USE 95%

FreeHand's new interface has really raised the level of expectation. No drawing program has ever been this simple to use.

DOCUMENTATION 89%

On-line documentation is provided. It's not as good as *Photoshop's*, but the handy keyword search makes finding what you're after a piece of cake.

VALUE FOR MONEY 88%

The power just keeps on increasing, but the price stays (more or less) the same. *FreeHand 4* was too expensive, but *FreeHand 5.0* isn't.

MACFORMAT RATING 92%

ILLUSTRATOR 5.5

Price: £564.00.
Requires: LCII or better, System 6.0.7 or later (System 7 rec'd), 3.1Mb of RAM (5Mb recommended), 13Mb of hard disk space.
For more details contact Adobe on 0181 547 1900.

FEATURES 89%

Illustrator was already ahead on features, and is still impressive by any standard, but *FreeHand* has done so much to catch up, the lead has now gone.

EASE OF USE 69%

Three selection tools, no simple drag-to-resize function – fine if you're an experienced designer, but if you're a beginner, forget it.

DOCUMENTATION 89%

Two booklets, which are both tutorial based, plus an extremely useful quick reference card. But why no on-line documents?

VALUE FOR MONEY 87%

FreeHand has left *Illustrator* behind, but it's still a very powerful program, and the CD is a big incentive to the potential purchaser.

MACFORMAT RATING 81%

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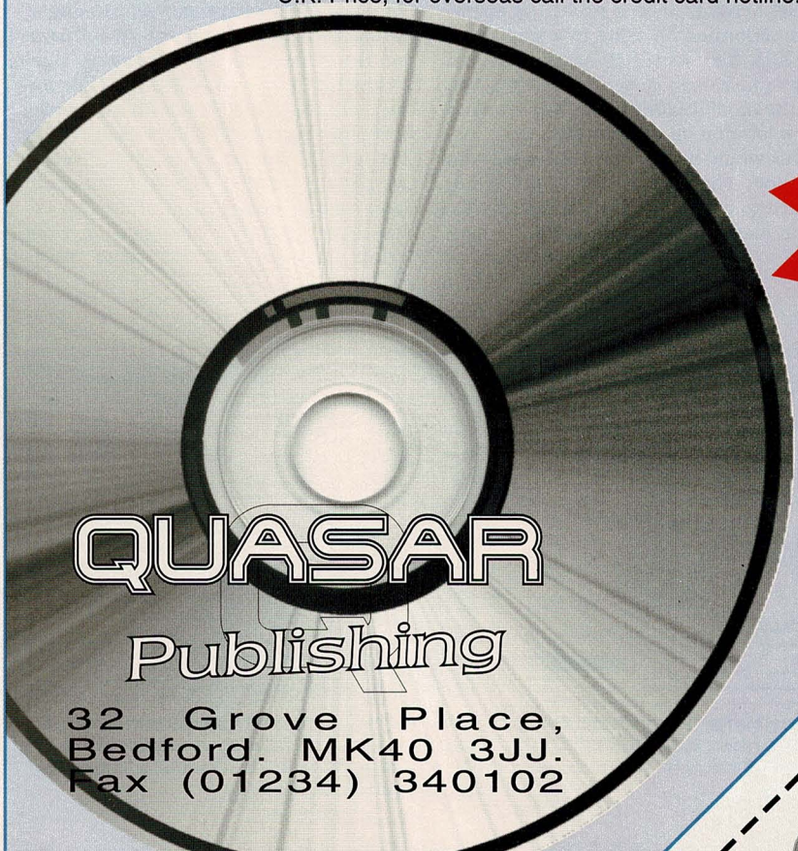

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XRes

The alternative Photoshop?

It's new, it's fast, it's expensive, er, it's fast... But can *XRes 1.0.4* measure up to the industry standard for image manipulation? Professional designer Marcus Dyson decides...

THE ONE TO BEAT

The benchmark that all image manipulation programs have to be tested against is *Photoshop*. For details of what it can do, check our review in MACFORMAT 22.

Speed – that's what sets XRes apart. I don't often quote the manual word for word, especially a bit of the manual written in 24-point type on the front cover. In red ink! But I couldn't have put it any more succinctly myself. *XRes* is fast. At least it appears fast when you first use it...

At first glance it's difficult to see why anyone would want to buy this package. It costs as much as *Photoshop*, but comes in a far inferior package. The design and materials of the box are both second rate. The manual is not exactly large, but it is (exactly) poorly designed. While *Photoshop* comes with a CD-ROM full of demos, on-line documentation and loads of other goodies, *XRes* is accompanied by a decidedly dodgy tutorial video.

Installing *XRes* is straightforward enough, although it doesn't use the standard Apple installer. Once installed it requires a minuscule 6Mb of hard drive space, but its RAM requirements are more voracious, with 14Mb being the minimum, and 20Mb being the preferred amount. That's a lot of RAM!

Another way in which *XRes* is unusual is the fact that the publisher, Fauve Software, has included a hardware dongle with the program to prevent illegal copying. This is fine, but nowhere in the manual is this device mentioned, and there are no clues as to how (or where) to install it. It's an ADB (Apple Desktop Bus) pass-through device, so I plugged it in between my mouse and my keyboard.

XRS files

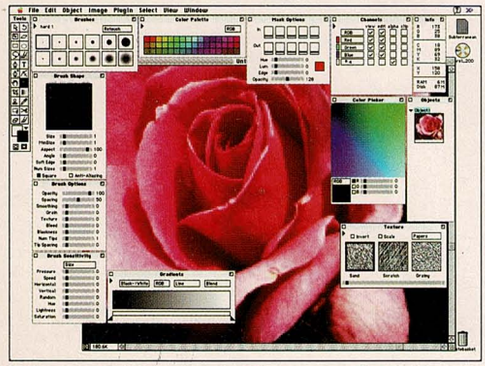
The main way in which *XRes* differs from 'standard packages' (as *Photoshop is* repeatedly referred to in the tutorial video) is that rather than calculate and perform all the painting operations immediately, it stores them up and performs them at a later juncture determined by you.

This has two main advantages. First, it is very quick to redraw the screen while in use. Second, since it stores the operations performed on a file in a special file (an XRS file) which is quite small, an image can be edited in one location, and just the modifications can be conveyed to a new location on a floppy disk.

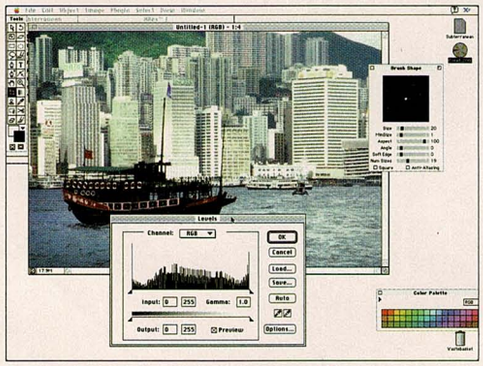
This would be ideal for a designer who had stock photography on CD-ROM but wanted to edit it at home. Since the edited or manipulated image cannot be re-saved to the CD, the artist could transfer the image between his home and work machines on the CD, and take the XRS file with him, so that work done at home could be rendered to the image at work.

Although the operations are buffered to an XRS file, the program converts all the files it is working on to another proprietary format, called LRG, or large format. It is this format that *XRes* can display so quickly. And large is a very apt name for these files. The accompanying video claims that LRG is a compressed file format, and thus will frequently be smaller than the equivalent TIFF version of the file (except with small images). Well, it wasn't any smaller with the reasonaby large images that I used. Take, for instance, the picture of the junk in Hong Kong harbour used on these pages.

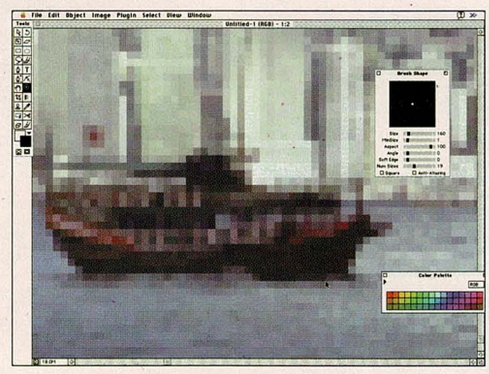
Rather than calculate and perform all the operations immediately, XRes stores them up and performs them later...



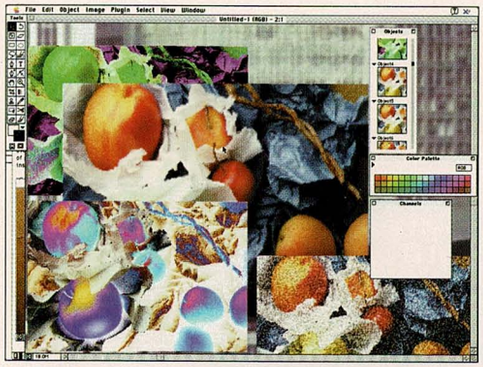
Like many of today's programs, *XRes* has a wealth of floating palettes. Unlike some other programs though, these palettes offer a comprehensive range of adjustment when you first open them, without the need for double-clicking or other 'modified' use.



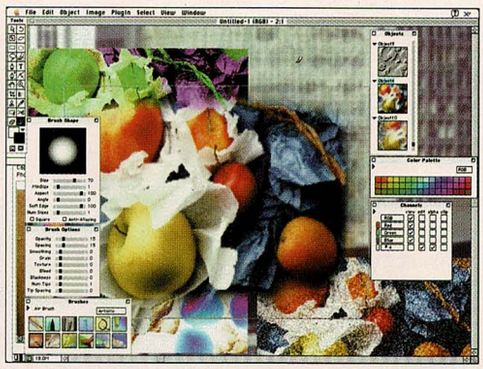
Applying a Levels/Auto adjustment to this 18Mb image took over 40 seconds in *Photoshop* (Using a Power Mac 7100/66 with 24Mb of physical RAM doubled to 48Mb), but in *XRes* it happened almost instantaneously.



You can zoom into close detail in *XRes* immediately. You'd have thought that this was excellent, but it's not actually a lot of use because the image is brought up in zoomed-out pixel resolution, so you can't really see much detail.



An object's position within the layers hierarchy is determined by its position in the Objects palette. But because this palette cannot be scaled, moving objects around is a rather slow and laborious process.



Soft edges can be interactively painted onto a selection in *XRes* by using the correct selection of brushes and channels. This feature, combined with the undos and moveable objects, means that the opportunities for photo-retouching are boundless.

XRes has a number of very impressive graduated tint functions, and when you apply these functions to the alpha channel you can then use them to create graduated opacity. This is a handy feature for blending pictures to create a montage.

Opened in either *XRes* or *Photoshop* this was an 18Mb image. Yet when it was saved in LRG format it was over 24Mb. And when it was saved as a TIFF from *Photoshop* it was only 18.5Mb. (To discover how big it was when saved out of *XRes*, read on!) So having the original file, an LRG working version, *and* an XRS file really eats up the hard disk space.

Multiple images

One of the most impressive features of *XRes* is the way it handles multiple image files. If you copy and paste, or import an image into an *XRes* document, it remains discrete from the rest of the document. Like an object in a structured drawing program, it can be selected and edited at any time, until the image is flattened, or rendered and saved out. The result is similar in effect to *Photoshop's* layers feature, but it is much simpler to use. But *XRes'* method of having the background layer *highest* on the layers list, and having the layers that are further forward lower down the list, doesn't feel 'right'.

Perhaps an even more impressive feature of *XRes* is the way in which any one of the many different objects can have effects – including transparency – applied to them individually.

In addition, *XRes* has the full range of image processing tools. These are excellent because of the speed at which they redraw to the screen, and because their effects can be undone at almost any time during the creation of an image. This is achieved by using the multi-level undo – the actual number of undo commands is defined by you and depends on your Mac's memory – or by simply deleting any of the objects and re-importing just the relevant part of the image.

Payback time!

But all good things come to an end, and *XRes* is no exception. *XRes'* incredible speed and multi-layered, discrete object approach is all too good to be true. When the time comes to save out the final version of your work (or 'export' as *XRes* calls it) then you discover its defect...

Let's go back to the junk picture again. *XRes* beats the pants off *Photoshop* when it comes to adjusting levels – *XRes'* screen update was almost instantaneous, while *Photoshop* took over 40 seconds. But saving the optimised picture out as a TIFF was a completely different story.

Photoshop simply chugs away and saves the picture out immediately, the only delay being the hard disk write speed (and, in my case, writing that pesky preview image – I keep meaning to switch that off). *XRes* has to effect the changes made to the image. Because it stores the picture as an LRG file *and* a record of the changes made to that file, when you wish to output the final image this has to be rendered from the information in *both* these files. So once I attempted to export my junk, *XRes* spent far longer than 40 seconds... It did a lot of hard disk accessing (applying the levels/auto command to the image) because it had to apply the information to the large data file stored on disk. It then began to save the image – an

What XRes does, it does very quickly. And to be frank, it does just about all the image processing tasks that Photoshop does...

PICTURE QUALITY

Programs like *Photoshop* and *XRes* are bitmap editors. This means you have control over each individual bit (represented as a screen pixel). The disadvantage is that when an image is resized you lose the quality. Draw programs, like *Illustrator*, use bezier editable lines (lines or curves defined by adjustable control points) and shapes that print to the highest resolution available.

Maximum resolution is obtained by clicking the D (detail) button at the bottom-left of the window, but the whole process is not noticeably quicker than in *Photoshop*. Once you are working with maximum detail, most operations will slow down.

Images pasted on to an *XRes* image remain as separate objects – you can then move, size and manipulate these objects without affecting the background image. This functionality is more commonly associated with draw packages.

All the popular image processing effects that you get from other programs are obtainable in *XRes*, especially as it can use all of *Photoshop's* Plug-ins. And you can delete any object and undo any effect at any time!

THE POWER OF POSITIVE PLUG-INS

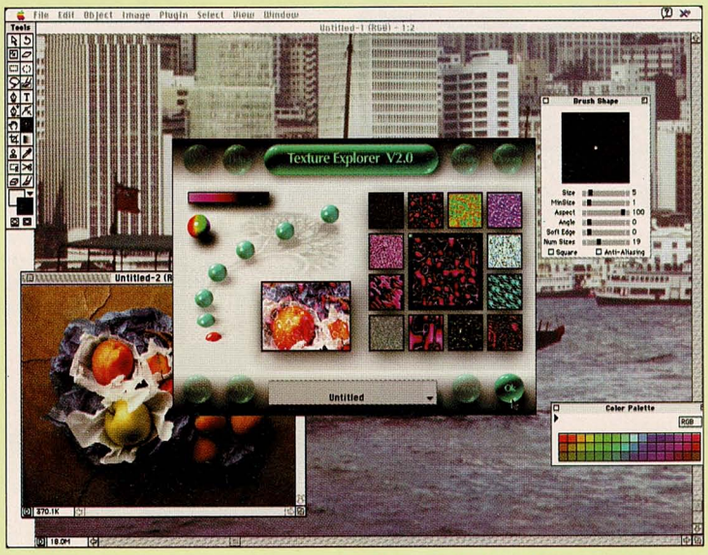
Image processors have one program to measure up to. That program is the mighty *Photoshop*, which is now in version 3.0, and it defines what any other Mac image manipulation and photo-retouching package has to aim for.

One of the things that has made *Photoshop* so popular is its modular program architecture. Adobe, the publisher of *Photoshop*, has structured the program so that new features can be added in the shape of little sub-programs called Plug-ins. These programs, when placed in the appropriate folder, are loaded into your Mac's memory whenever *Photoshop* is loaded and they can be accessed as additional features from within *Photoshop*.

Adobe has also pulled a masterful marketing stroke by making the file format of these Plug-ins publicly known, so that other software houses can write Plug-ins to use in their programs. This means that without Adobe having to keep identifying and addressing user needs, *Photoshop* keeps getting new features, often designed by small companies with a closer perspective on niche market requirements. Hence *Photoshop* can please all of the people all the time, and if it doesn't, someone can just write a Plug-In to make it.

But the flip side to this coin is that if people know how to make a Plug-in plug in to *Photoshop*, then they also know how to make their own programs accept Plug-ins too. Which means that any package – if the developers choose to make it Plug-in compliant – is able to offer many of the fabulous niche (and mass) market features that have helped to make *Photoshop* so popular.

XRes is just one of the programs that has adopted this Plug-in compliant policy. Without *Photoshop* Plug-ins, *XRes* would still have been a very interesting image processing package with a *few* unique selling points. However, with Plug-ins, *XRes* can do pretty much everything *Photoshop* can do, plus more, and do it faster too!



Kai's Power Tools is far and away one of the most popular *Photoshop* third-party Plug-ins. Here it runs happily from within *XRes*.

18Mb image you'll recall – to my hard drive. Having 50Mb spare I didn't foresee a problem... Luckily I had saved this review, which I was writing alongside *XRes!*

What actually happened was that *XRes* put me in an endless loop, telling me that the swap file was full, and that the file could not be written. Once or twice would have been enough, leaving me to exit the program (my data being safely stored in the LRG and XRS files), free up some disk space and some RAM, reboot *XRes* and complete the process. But no. I was stuck in an endless loop, and my only option was to reboot my Mac using the 'last resort' button at the back. *Photoshop* 10, *XRes* 0.

More than anything, XRes reeks of a not-quite-finished program released before it should have been.

If the work involved had been more complex – if more layers had been used, more alpha channels created, if more resizing, warping and colour changing had been applied to the image – the final render time may have compared well with *Photoshop*. But I know from my own experience, and that of my wife, who is also a professional designer, that the uses an image processor is most frequently put to are the simple scan, colour balance, save out sort of jobs. And it is exactly these bread and butter applications that *XRes* turns out to be worst at, particularly given the current version's aversion to scanning and printing, and its meagre file format support.

More than anything, *XRes* reeks of a not-quite-finished program released before it should have been. Okay, so there are often wrinkles that need ironing out of first versions by actual in-the-field end-user testing. And *XRes* is offering an upgrade to future 1.x versions free to all registered users. But who can tell if the facilities to handle scanning, printing, or your favourite file format will be a job for the free upgrade, version 1.x, or version 2, which won't be a free upgrade?

What *XRes* does, it does very quickly. And to be frank, it does just about all the image processing tasks that *Photoshop* does, with the added benefit of multiple undos, and blistering speed. When features like scanning and printing are implemented, and the interface is polished a little more, *XRes* will be a serious contender for photo-retouching and montage work. For more mundane tasks, its method of working may never make it an ideal application.

For those people who frequently work on huge files on relatively ordinary machines, and particularly for our hypothetical worker who wishes to work on large images stored on CD-ROM and then render them at a remote location, *XRes* is a must-buy package. But its relatively modest selection of file formats, lack of text functions (for the present at least), inability to print or scan, and less-friendly user interface mean that it's still a long way from challenging *Photoshop* as *the* image processing all-rounder. **MF**

XRES

Price: £799. Out: now.
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For more details contact CGS Computerbild on 0181 679 7307.

FEATURES 68%
Don't print, don't scan... what do you do? All the image processing functions are there, plus multiple undos and speed.

EASE OF USE 78%
An unconventional program calls for an unconventional way of working. Not entirely intuitive, especially after using other packages, but it is learnable.

DOCUMENTATION 75%
The manual isn't comprehensive enough. The video is informative but is obviously quite cheaply made.

VALUE FOR MONEY 75%
Given that the street price of *Photoshop* is half the RRP of *XRes*, I know which one I'd go for.

MACFORMAT RATING 72%

NEXT MONTH
Next month we review another contender for *Photoshop's* image-processing crown: *PhotoFix*.

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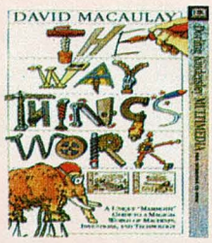

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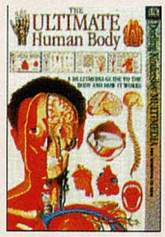

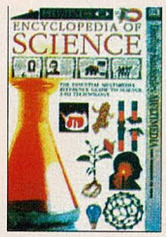

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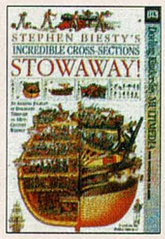

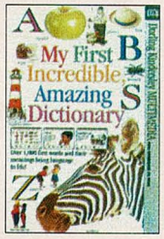

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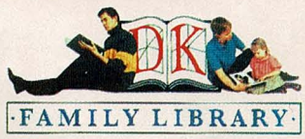

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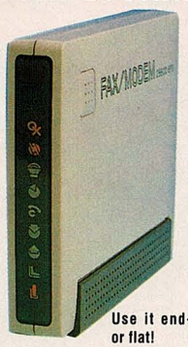

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In search of some easy-to-use music software that doesn't require MIDI hardware, Ian Waugh goes on a Bogas journey and gets ready to jam along with some top tunes...

Music making is taken fairly seriously in the UK; most of the available software is designed for committed musicians with MIDI equipment. Yet in the United States, where the Mac was born, there is just as much interest in fun music applications as there is in serious music software.

Bogas Productions – no, really, it's a genuine name – has released two music programs that require neither a MIDI interface nor any external music equipment. All you need is your Mac; the programs have their own sampled instrument sounds that play through the Mac's speakers, and your QWERTY keyboard replaces the usual black and white one.

The programs are easy to use, too, and are aimed at users who would like to make music with the Mac, but who aren't full-time musicians.

Jam Session

The only way to make music more easily than using *Jam Session* is to put a disc in your CD player! Basically, the program churns out a tune and you jam along by pressing keys on your Mac's keyboard. These play notes in a scale, percussion sounds or, most interesting of all, little melodic riffs. These are selected and processed so that you never play out of tune. That's my kind of program!

Jam Session comes with 20 songs, including *Black Magic Woman, The Devil Went Down To Georgia, Crocodile Rock, La Bamba and Roxanne*. Instead of staring at a blank screen while struttin' your stuff you can select one of half a dozen scenes that play animated pictures in time to the music. Cute, but no multimedia masterpiece.

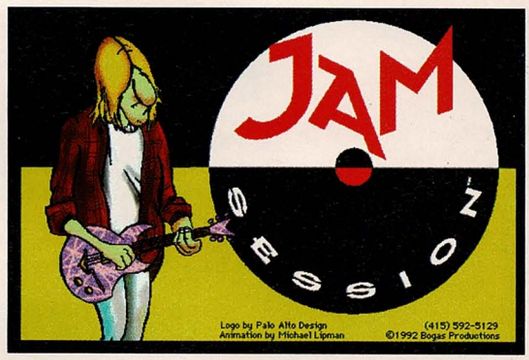
So the tunes play and you tap the keys to add your bit to the performance. The four rows of keys produce different effects. For example, in *The Devil Went Down To Georgia* the top row plays a fiddle scale, the second row plays 'good guy' riffs, the third row plays 'bad guy' riffs, and the bottom row plays percussion.

Other keys increase and lower the pitch, or stop the riff dead. Usually when you press a key the new riff starts, cutting the other one dead. But you can make each riff play out. This enables you to cue up a series of riffs by pressing several keys in quick succession. You can also sync a riff to the beginning of the next bar, which may be better for certain pieces.

It's all great fun, you may think. And it is – if, inevitably, a little predictable. But you can customise the program to a reasonable degree. For example, you can substitute one instrument for another, and you can even edit the riffs.

Editing takes place on the stave so it does help if you have a nodding acquaintance with music notation. And I thought the program was aimed at non-musicians. Oh well, you can't have it all.

If a feeling of *déjà vu* has descended on you, that's because you have a good memory. We looked at a similar program, called *Rock Rap 'N' Roll*, in MACFORMAT 12. If you're wondering which came first, it was *Jam Session*. *Rock Rap 'N' Roll* is much more up front, but you can't redefine the riffs or load your productions into another program, such as this one...



Welcome to *Jam Session*, the program that enables you to jam along to songs without playing a wrong note.

Super Studio Session

Super Studio Session is essentially an eight-track sequencer. It has many similarities to *Jam Session*, which are obvious when you look at the editor. The two programs can also share the same instruments – there are 168 in *Jam Session* and 90 in *Studio Session*. The pack includes two versions of the program; one plays at 11kHz and the other at 22kHz. Most modern

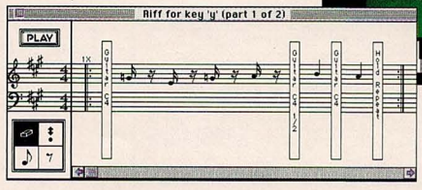
Continued on next page

JARGON BUSTERS

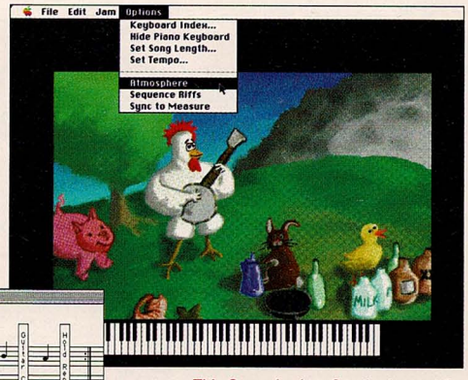
Eight-bit resolution: the standard Mac sound resolution. CD-quality sound demands 16-bit resolution.
Legato: playing smoothly, letting each note sound for its full duration.
Monophonic: only able to play one note at a time.
Quantisation: analysing a performance and moving notes that are slightly out of time back onto the beat.
Staccato: truncating the note lengths so they are clipped and do not sound for their full duration.

In *Jam Session* the four rows of keys on your Mac's keyboard produce different notes and riffs.

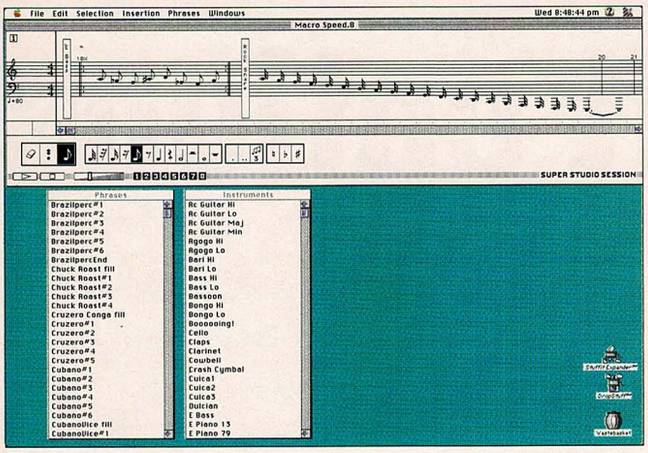
This is one of six colourful animated scenes that you can watch while *Jam Session* plays – a truly Bogas journey into psychedelia.



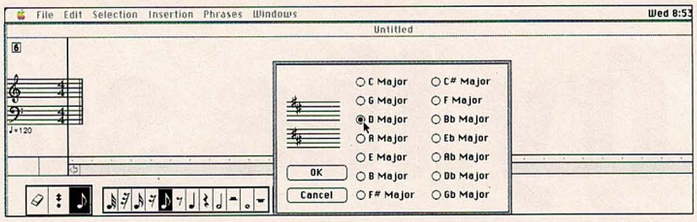
With *Jam Session* you can edit any of the riffs and change the instruments used with a score editor.



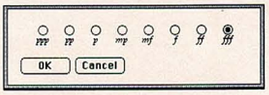
This Scene in *Jam Session* is used for 'fiddle' music. The Atmosphere adds audience applause before you start jamming along.



Super Studio Session's main edit screen automatically fills the width of your monitor, and you have quick access to the Phrase and Instrument windows.



With *Super Studio Session* you can insert tempo and time signature changes into the score and, as you can see here, you can change the key signatures as well.



You can insert volume changes ranging from very quiet (ppp) to very loud (fff) into the score.

Macs will handle the faster one.

The sequencer has eight monophonic tracks. This is reasonable since the Mac can only play eight samples at once, but unfortunately you can only see one track at a time. This makes creating an arrangement just a little more difficult.

You can also repeat a part of the score any number of times. This can make arrangement even more difficult unless you have everything worked out beforehand. One of the nice things about traditional MIDI sequencers is that you can play back a section of a song and try various ides for other lines at the same time. You can't do that with *Studio Session*.

The tunes play and you tap the keys to add your bit to the performance. It's all great fun...

Entering notes is easy: you simply select the note duration you want and click it onto the score. Bar lines can be added automatically and there is an eraser in case you make an error. To change a note you simply click a new one in its place.

After entering notes, you can assign them to any instrument, and even change instruments in the middle of a track. Oddly, you can't resize the track window – it automatically expands to the width of your monitor.

One neat feature is the ability to load and save phrases (short sections of music). There are over 100 phrases to start you off, and you can quickly put a rhythm track together and add phrases to create a new tune – or at least a new Frankensteinian arrangement!

Studio Session has many useful options. It's able to swing a group of notes, effectively a swing quantise option. You can transpose notes and alter their duration.

You can print out your music as individual tracks or as a complete score. You can also save the composition to disk in *SoundEdit* format for loading into programs such as *HyperCard*.

Finally, the program has limited support for MIDI, but you need another Bogas program for this: the *Studio Session MIDI Utility* (around $100 in the US). *Studio Session MIDI Utility* gives you control over five MIDI parameters: pan position (to place a synthesiser voice at a certain place in the stereo image); modulation; note length (to create legato and staccato effect); pedal on; and pedal off.

Jam on it

You can play *Studio Session* songs in *Jam Session* (and you can export *Jam Session* songs in *Studio Session* format). If you create the songs in a particular format you can also jam along to them. This basically consists of putting the accompaniment on tracks one to four and the riffs on tracks five to eight. But creating your own riffs – ones that work – is no easy task.

The arrangements of the songs for both programs is excellent and the quality of the output is pretty good considering it's only using eight-bit samples.

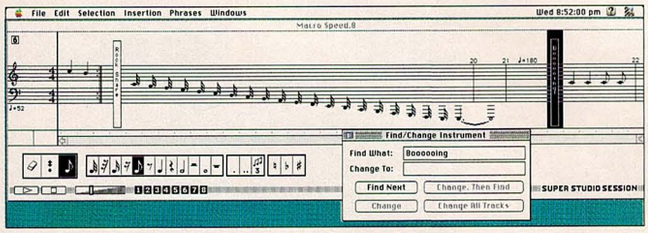
The programs are also easy to use, and *Jam Session* in particular is ideal for the non-musicians who want to take an active part in music production – as long as you realise that most of the actions have been predetermined for you.

Super Studio Session is a good introductory program too, but you really need a knowledge of music notation in order to use it. It would suit someone with a little musical knowledge who doesn't want to fork out for a MIDI interface and a synth. The raw beginner may find it hard work.

Neither program approaches the sophistication of MIDI-based programs but that is to miss the point. These programs enable you to make music for a minimum cost, without investing in external equipment – and that will be a very attractive proposition for many Mac users. **MF**

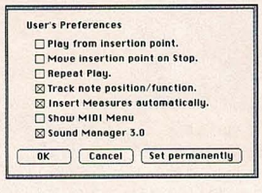
NEXT MONTH...

Overture! New music programs are rare on the Mac these days, but this score-writer from Opcode offers everything a beginner needs – and even if you already understand music notation, *Overture* can help organise the layout and produce a printed score of your work.



Studio Session's Find function will find all occurrences of a specific instrument, which can be changed if you wish.

To find and organise music phrases in *Super Studio* you can divide them into 15 different categories.



You can insert tempo and time signature changes into the score and, as shown here, key signatures too.

JAM SESSION

Price: £37.60.
Requires: Mac Plus or better.
For more details contact MacLine on 0181 401 1111 or Bogas Productions on 0101 415 592 5129. Fax: 0101 415 592 5196.

MACFORMAT RATING 76%

SUPER STUDIO SESSION

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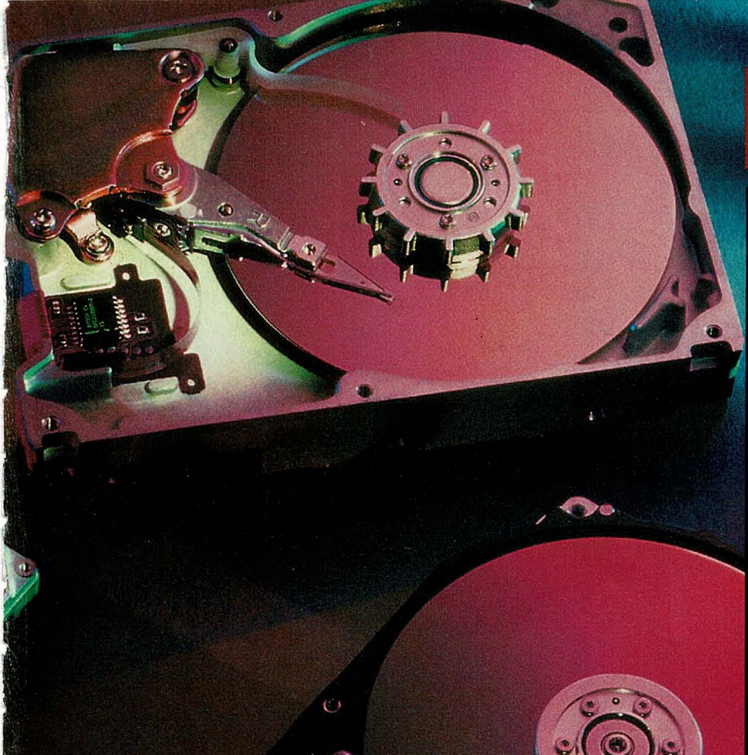
Requires: Mac Plus or better.
For more details contact MacLine on 0181 401 1111 or Bogas Productions on 0101 415 592 5129. Fax: 0101 415 592 5196.

MACFORMAT RATING 79%



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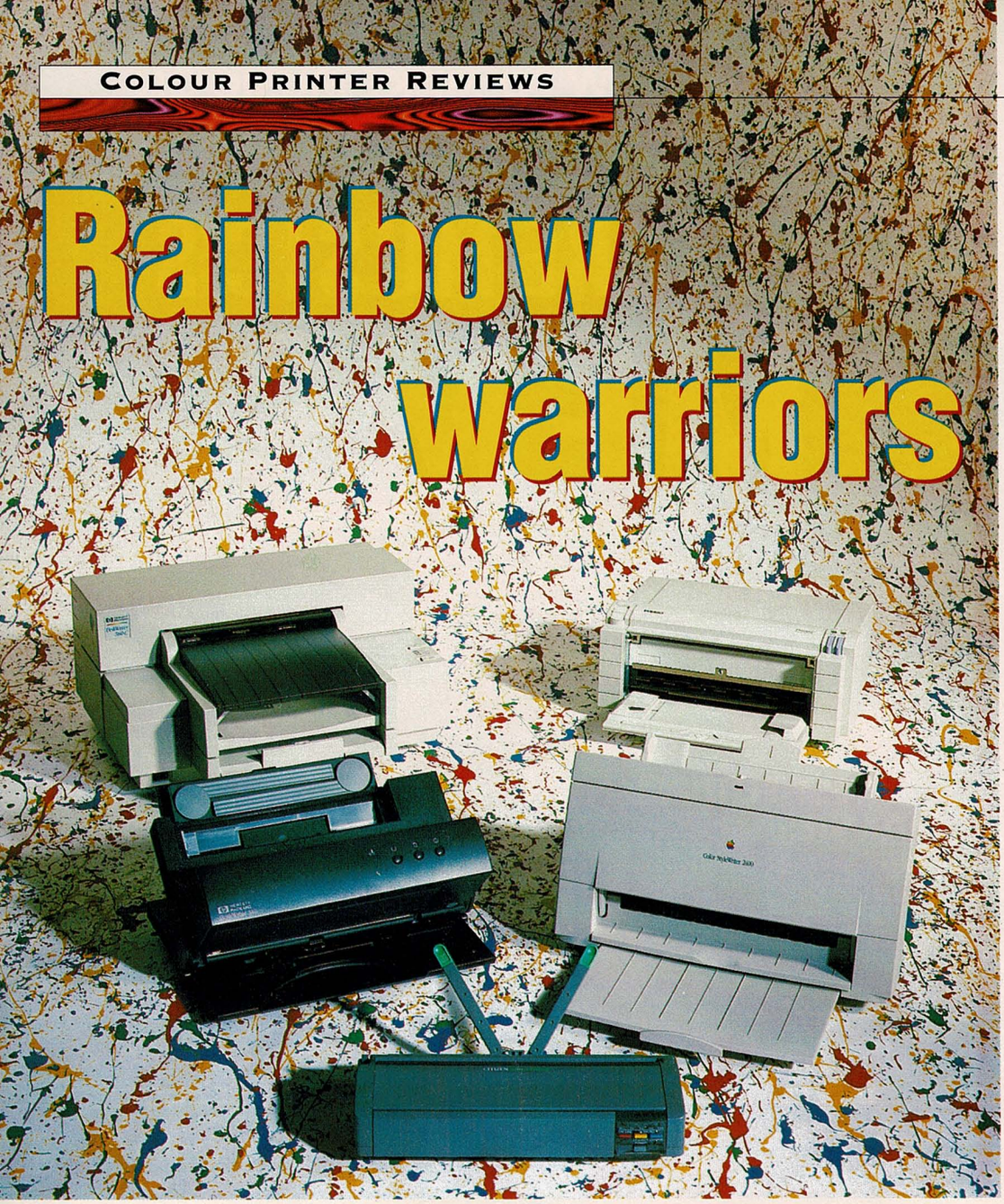
Rainbow warriors



Colour newspapers are proof that the price of print technology is falling. And now there's a range of affordable colour printers for the Mac. Jim Chandler puts five on test.

KEY COLOUR

Four-colour process printing is often referred to as CMYK, for cyan, magenta, yellow and 'key'. The black part of the image was originally regarded as a reference that the other colours were 'keyed' into.

All new Macs are colour machines, so doesn't it make sense to have a colour printer too? After all, what's the point of putting together all those wonderful pictures in *Photoshop* or *KidPix* if they just look like rather nasty newspaper clippings when they're printed?

We decided to test a handful of popular non-PostScript colour printers, ranging in price from about £270 to about £1,000. They use a variety of technologies – inkjet, thermal wax transfer and dye sublimation (see 'Picture This' on page 81), and they show great differences in quality. Interestingly, it's not always the case that the cheapest is the worst. But as with almost anything, you'll have to pay top-end prices for top-end quality.

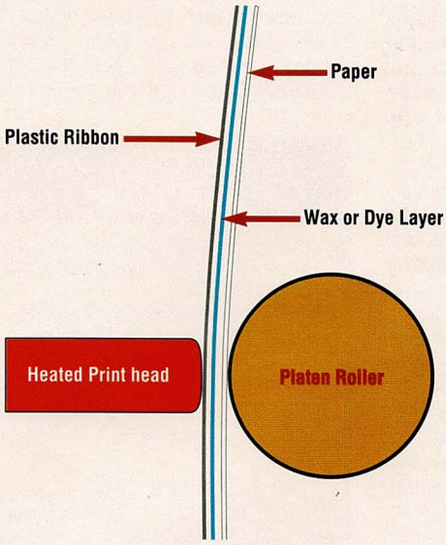
The tests threw up some interesting points. First, colour printers are no good if you're in a hurry. All the printers we tested took between five and 20 minutes to print a colour page, although most trundled through black-only pages at quite respectable speeds. The number of inks used was an issue too. In theory, almost any colour can be produced by mixing three 'process colours' – cyan (a pale blue), magenta (a pinkish purple) and yellow. Mixing all of them together in equal quantities should give shades of grey, and eventually, black. In practice, however, it just doesn't work: the inks are never quite pure shades of the process colours, and mixing them tends to result in a kind of muddy brownish-green. This is why professional colour printing uses a fourth colour – black – instead of relying on a mix of the others.

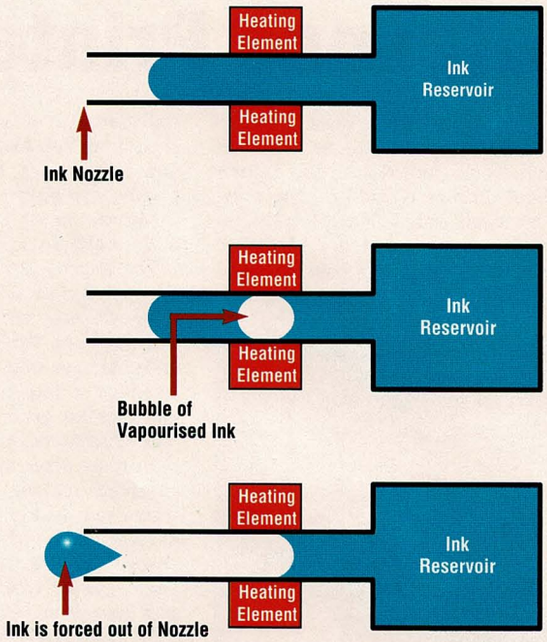
This principle holds true for computer printers too. All the test machines use cyan, magenta and yellow. Some have a black cartridge or ribbon in addition. If you intend to print much black text, or many pages mixing text and graphics, it's important to know how that black is going to be formed. Sepia-style blacks are not always attractive...

We ran the same tests on all the printers: we used a couple of scanned images that contained subtle colours like flesh tones; some pages with blocks of colour, in the style of presentation graphics; and finally a page with both text and graphics.

So how did they all perform?

Picture this





PRINTING PROOF

So much for the theory, but what kind of results did each printer achieve on test? Take a look at the test printouts reproduced on page 84 and compare for yourself...

DYE SUBLIMATION PRINTERS

Dye sublimation printers use plastic ribbons coated in a thin film of coloured dye. The print head heats the dye until it becomes a gas (sublimates). The gas condenses on the paper, and hardens as it cools, forming the image.

Thermal wax printers use a similar technique, except they use coloured wax instead of dye. The wax is only heated enough to become liquid. The wax is then pushed against the paper by the print head.

INKJET PRINTERS

Inkjet and bubblejet printers work by firing tiny blobs of ink onto the paper from a number of tiny tubes that are in the print head.

Ink is taken into the tube from the ink cartridge. Tiny heating elements around the back of the tube then heat the rear of the ink, which eventually boils and vapourises. As the ink heats up it expands, causing the unheated portion of the ink to be fired on to the paper.

DeskWriter 310

This printer has now been superseded by the DeskWriter 320, but the two machines are very similar. The DeskWriter 310 is a tiny portable inkjet, printing at up to 300dpi. It's about as long as a piece of A4 paper, and fits quite comfortably into the average briefcase. It is supplied with a mains adaptor, but it also takes battery packs.

Unlike Citizen's Notebook Printer II, the DeskWriter 310 has no built-in sheet feeder. Instead, an optional sheet-feeder is available, which leans forward at a peculiar angle when you've slotted the printer into it. The sheet feeder turns the little portable into a very acceptable desktop machine. The feeder's rather fragile in places, though, especially the output tray.

Curiously, for a low-end printer, the DeskWriter 310 supports AppleTalk networking as standard, enabling it to be easily plugged into and shared on a Mac network, as well as attached to a Mac's serial port as usual. The quality of the driver software is also very good, giving options for different levels of print quality and different colour-matching methods. There's even a preview option that will enable you to see what you're about to print before actually committing it to paper. Portable users are not forgotten either. Hewlett Packard has included a battery management utility.

Upgrading the DeskWriter 310 to colour is simply a matter of removing the black cartridge and replacing it with a three-colour one. Unfortunately, this means that the printer has to create black by mixing the other three colours. The result is a kind of olive drab, which, while it merely makes images look a little pale, makes black text look slightly odd. On the whole, though, scanned images were quite acceptable; they lacked in darker tones, but solid colour blocks were reasonable, if slightly pale.

DESKWRITER 310

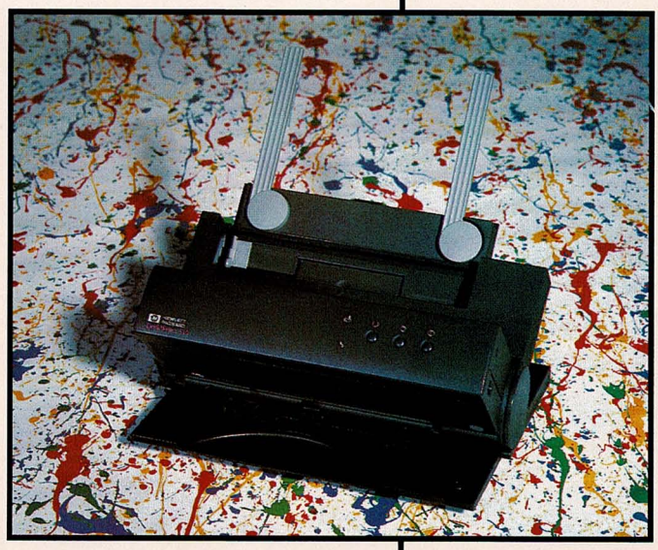
Price: £269.08 (without sheet feeder). £292.58 (with sheet feeder).
Requires: any Mac with at least 4Mb of RAM and 5Mb of free hard disk space.
For more details contact Hewlett Packard on 01344 369369.

FEATURES 90%
Elegant portable with good software.

EASE OF USE 86%
Slightly fiddly to set up the sheet feeder.

VALUE FOR MONEY 92%
Portability with reasonable colour.

MACFORMAT RATING 89%



Continued on next page

Notebook Printer II

Laptop computer users often need to use a printer without having to return to their homes or offices. The Citizen Notebook Printer II could be the solution. It's small, only 297 x 103 x 55mm, so you can easily pack it into a briefcase along with a PowerBook. And it weighs only 1.22kg with its battery in place. Installation was as easy as Mac printers should be. You just drop the driver into your Extensions Folder, plug in the printer, and restart your Mac and select the printer in the Chooser. We had it up and running in no time.

The Notebook Printer II is a 360 dpi thermal fusion printer, and works by using ribbons, which look a little like cassette tapes. Three types of ribbon cartridge are available: the basic black-only cartridge; a four-colour 'artistic colour' cartridge for general colour use; and a 'presentation colour' cartridge that contains more black than the artistic colour cartridge, making it more suitable for mixed text and graphics. Each cartridge is two-sided; when the ribbon has spooled all the way through, the cartridge can be reversed and used again. But the colour cartridges don't last very long: one brand-new artistic colour cartridge expired during the first test print!

The Notebook Printer II is clearly designed mostly for black-and-white work, with colour reserved for the occasional graph or chart. Black text printed very cleanly, and looked especially good on glossy paper; the 'presentation graphics' test produced some crisp, deep colours, although with some banding; but the prints of scanned graphics were very disappointing, with pronounced banding and a particularly muddy, black dithering effect. I'd hate to totally dismiss the Notebook Printer II just because of this. If you want a portable printer for text and very occasional colour work, then it's well worth a look.

NOTEBOOK PRINTER II

Price: £410.08. Artistic colour ribbon (pack of two) £11.69; presentation colour ribbon (pack of two) £9.39.
Requires: any Mac with at least 4Mb of RAM.
For more details contact Citizen Europe on 01753 584111.

FEATURES 88%
Small, light, quiet and easily portable.

EASE OF USE 90%
No problems installing the printer or changing ribbons.

VALUE FOR MONEY 72%
Not cheap for a printer with such limited colour abilities.

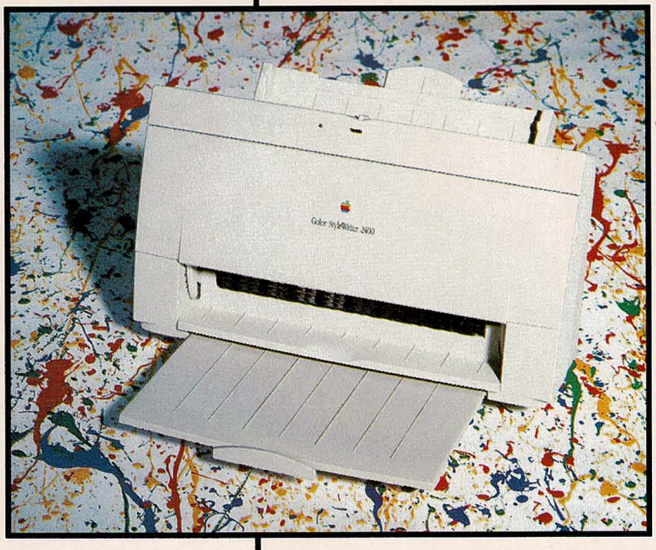
MACFORMAT RATING 83%

COLOUR ROOTS
Apple have been making colour printers since long before the StyleWriters. The ImageWriter dot-matrix printer, which was released shortly after the first Mac, could be fitted with a colour ribbon.

Colour StyleWriter

This is the latest in Apple's long line of StyleWriter bubblejets. As with previous StyleWriters, it appears to use a 360 dpi Canon bubblejet engine, with both a three-colour and a black cartridge being fitted at the same time.

Connecting up the 2400 is a doddle. You simply connect the printer to your Mac's printer or modem port, and plug it into the mains. You load the printer drivers using Apple's Installer program. The drivers include support for Apple's new ColorSync colour matching system and QuickDraw GX, and enable the printer to be shared on an AppleTalk network if GX is loaded. Notably, the StyleWriter 2400 was the only machine we reviewed that came with QuickDraw GX drivers.



Print quality was variable. The 'presentation graphics' tests worked well, with slight banding showing the passes of the print head across the page. The scanned images were less successful: even on glossy paper the colours were a bit dull and washed out. Bright primary colours tended to look slightly muddy, and the pictures seemed to lack contrast. On top of this, there was some slight banding here too.

None of these points really ruin the printer's appeal. At the end of the day, the results were perfectly acceptable for general home use or occasional office use. And the StyleWriter 2400's performance when printing text was very good. This is down to the fact that it is able to use its black cartridge rather than having to generate black from a colour cartridge like other printers.

My main reservation about the Colour StyleWriter 2400 is that it looks pretty flimsy. The sheet-feeder and paper tray wouldn't last five minutes in a busy office. In fairness, though, the 2400 is really designed for home use, where it can expect to be looked after with a little more care.

COLOUR STYLEWRITER

Price: £468.83 (Apple's expected street price).
Requires: LC or better, 4Mb of RAM, System 7.0 or later.
For more information contact Apple UK on 01800 127753.

FEATURES 83%
A flexible and competent machine.

EASE OF USE 92%
Real plug 'n' play stuff.

VALUE FOR MONEY 82%
Not the most expensive machine of its type, but then not the best put together either.

MACFORMAT RATING 86%

DeskWriter 560C

The designers of the DeskWriter 560C clearly drew their inspiration from the Maginot Line. It's boxy. It's big. And it's a great place to stand your coffee mug. *[Except that coasters don't cost £540 and they still work if you spill coffee on them – Ed]*

The 560C's ancestors have been the mainstays of many a small office, and this latest family member isn't about to let down the DeskWriter's name. It has a permanent sheet feeder and out tray, both conveniently situated at the front, and the sockets at the back are all neatly recessed to allow the printer to be pushed back against a wall.

The driver software with it is Hewlett Packard's usual high quality offering. It offers previews, various colour matching and print quality options, and a good background printing system. The 560C is also networkable on AppleTalk.

Like other DeskWriters from Hewlett-Packard, the 560C is an inkjet. It has a maximum resolution of 600 x 300 dpi when printing in black only, and 300 x 300 dpi when printing in colour. It's a four-colour machine, with the black ink being stored in its own cartridge, enabling it to be replaced without you having to lose the other three colours.

The fact that it is able to use black where it's needed makes a big difference to print quality. The test documents showed the DeskWriter 560C to be the best of the inkjets reviewed, just beating the StyleWriter 2400. In the scanned image, primary colours were bright and clean, shadows were deep, and details were quite crisp. Block colours weren't quite so good, however, and tended to look a little weedy, but text was good and black.

The printer was one of the quietest in operation, but unfortunately, it was one of the slowest too. On average, and in best mode, it took marginally longer than the Colour StyleWriter 2400 to print the test page.

MACFORMAT Classic

DESKWRITER 560C

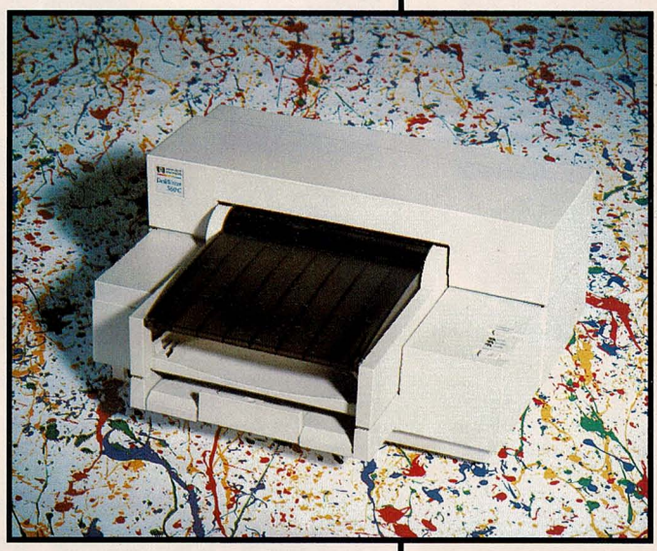
Price: £540.50.
Requires: Mac Plus or better, at least 4Mb of RAM and 7.5Mb of free disk space.
For more details contact Hewlett Packard on 01344 369369.

FEATURES 96%
Good solid all-rounder.

EASE OF USE 90%
No problems, but not very fast.

VALUE FOR MONEY 95%
Delivers very acceptable print, and it's built to last.

MACFORMAT RATING 94%



Fargo Primera

The Primera can use either of two printing technologies. When you get it out of the box, it will work as a thermal wax printer, taking one-, three-, or four-colour ribbons. But an optional 'photo-realistic' upgrade enables the use of dye sublimation ribbons.

The Primera is not a Mac printer: it doesn't have a serial port or a network port of any kind, only a PC-friendly parallel port. In order to use it with the Mac, you'll have to buy a Mac Interface Kit, which consists of drivers plus a PowerPrint serial-parallel converter cable (for more information see the 'Also Available' box on page 84).

Once up and running, the Primera was very quick in thermal wax mode. The results, though, were merely average. Block colour looked fine, but scans turned out dark, with a pronounced black dither pattern. The real magic starts when you switch to the the photo-realistic upgrade.

The upgrade is really just a new driver and a new ribbon, but the difference it makes is amazing. For one thing it's much slower: an A4 page took about 20 minutes. But the result is worth waiting for. The dye sublimation print method enables up to 16.7 million colours to be printed, at 203 dpi. To call it photo-realistic is not an exaggeration. It's the only printer tested that even comes close to photographic quality.

But it's not cheap. Apart from the cost of the printer – and it's twice as expensive as its nearest rival here – plus the interface kit and the upgrades, you'll still have to fork out for the ribbons and the special paper it requires. This isn't your average desktop printer: it prints in colour, and it does it well. For mundane black-only printing, it's just too expensive. Designers and advertising agencies will love it for producing superb colour roughs, while leaving the ordinary stuff to the office LaserWriter.

FARGO PRIMERA

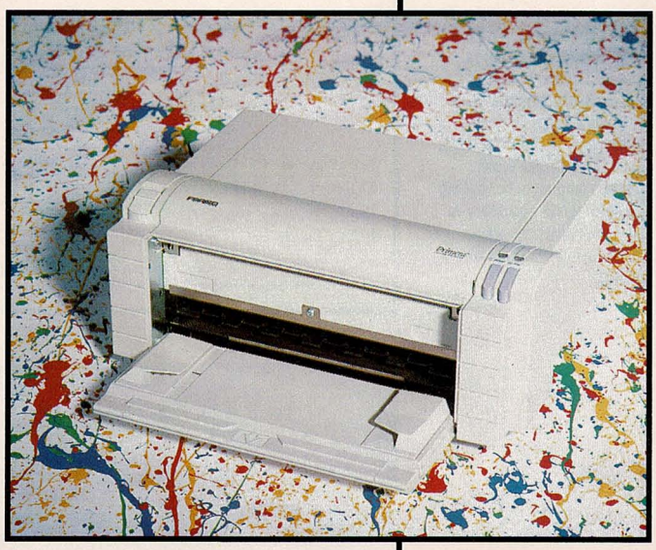
Price: £1,051.63. Mac Interface Kit: £233.83.
Photo-Realistic Upgrade Kit: £351.33
Requires: LC or better, at least 4Mb of RAM and 5Mb of free disk space.
For more information contact Bannerbridge PLC on 01268 419101.

FEATURES 94%
Dye-sub upgrade gives excellent results.

EASE OF USE 74%
Erratic paper handling.

VALUE FOR MONEY 74%
At this price you've got to really need to buy one.

MACFORMAT RATING 85%



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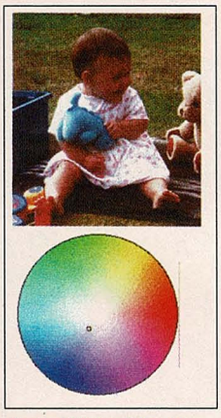
Sample Images

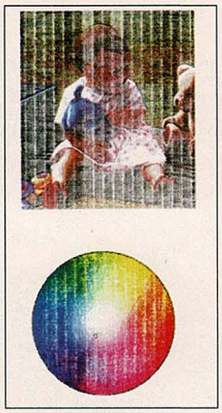
All the printers were given the same sample page to print (shown below). The image of the baby was taken from a PhotoCD, and was chosen because it had a good range of tones and colours, from bright reds and yellows, to dark green and black. The image also had a good range of flesh tones, which is an important test because skin colours are an indicator of general colour quality.

The multi-coloured circle is Apple's colour picker from the Colour Control Panel. Again, it has a good and very wide range of bright colours. The brighter colours towards the centre of the picker are quite subtle, so how well the printer handles them is a good test of how well it can render pale colours.

On four-colour printers, like the Primera, the black is applied as a separate colour. But on three-colour printers, the black had to be produced from the three colours (cyan, magenta and yellow). This is another good test of printer quality – especially if you want to print text too.



The DeskWriter 310 prints most colours fairly well, if rather pale, but the black is an unpleasant dark olive.



The Notebook Printer II printed black text cleanly but would be best used as an occasional colour printer.

The Colour StyleWriter produced perfectly acceptable results, although the pictures lacked contrast.

The DeskWriter 560C was the best of the inkjets. Primary colours were bright and clean and details were crisp.

The Fargo Primera, it is claimed, offers 'photo-realism' – and if you use the dye sublimation, it does.

Running in thermal wax mode, the Fargo Primera was merely average. Block colour was good, but scans weren't.

The best on test

What became apparent after testing all the printers is that the old adage 'horses for courses' applies. Portability is becoming important now that portable Macs weigh less than a Mini, and the two portable printers were both neat and practical for use on the road.

Unfortunately, this review is concerned with printers' colour capabilities, and the Citizen Notebook Printer II is a non-starter for any but the simplest block colour graphic. Hewlett Packard's DeskWriter 31 is much more capable for colour output, even if it is let down rather by not having a true black in its colour mode.

I liked the Colour StyleWriter 2400. It was a smart design, and its QuickDraw GX drivers promise some interesting features when more applications are written to support GX. It was just beaten by the Hewlett Packard DeskWriter 560C, which delivered deeper colours, and was rather more sturdily put together. For small office or home use, I'd say the DeskWriter has the edge in ruggedness as well as in print quality.

The Primera is a strange beast. At well over a £1,000 for the full dye-sub kit and caboodle, it needs to justify itself with top-quality output... and it does. Designers often need to supply colour 'roughs' to show what a job should look like when it's printed. DTP operators sometimes need to show a client a colour proof. Bearing in mind that it's only an A4 machine, it may be enough for these uses. It was the only printer that delivered anything like photo-quality output, and its price reflects this. If you've already got a printer for letters and you've just got to have the highest quality, the Primera is worth a look.

Printer	Print Method	Number of Colours	Portable?	Price	Distributor
DeskWriter 310	Inkjet	3	Yes	£292.58 (with sheet feeder)	Hewlett Packard – 01344 369369
Notebook Printer II	Thermal wax	4	Yes	£410.08	Citizen Europe – 0753 584111
Colour StyleWriter 2400	Inkjet	4	No	£468.83	Apple UK – 0800 127753
DeskWriter 560C	Inkjet	4	No	£540.50	Hewlett Packard – 01344 369369
Fargo Primera	Thermal wax	4	No	£1285.46	Bannerbridge – 01268 419101
	Dye sublimation	3	No	£1636.79	Bannerbridge – 01268 419101

JARGON BUSTERS

Dithering: a way of mixing patterns of dots of two colours to produce a third colour.

DPI: Dots Per Inch. The more dots per inch, the better the definition of printed pictures etc.

PostScript: Adobe's page description language. A PostScript printer contains a small computer that 'runs' PostScript code, which is sent to it by the computer. The code contains the instructions that tell the printer how to draw the page.

QuickDraw: Apple's own imaging language, containing the commands necessary to draw anything on a Mac screen or non-PostScript printer.

ALSO AVAILABLE – OR ALREADY ON YOUR DESK?

These aren't the only colour printers available for the Mac. A new machine worth looking out for is Epson's Stylus Colour, an inkjet machine capable of resolutions of up to 720 dpi, all for a mere £470. Epson is on 01442 61144.

If you want to widen your choice even more, you may be able to connect to one of the many PC-compatible printers around, using GDT Softworks' PowerPrint cable and drivers to convert your Mac's QuickDraw serial output to a parallel form that a PC printer can understand. PowerPrint costs about £170 and supports hundreds of printers (dot matrix, inkjet and laser). For details, see What's New (page 25) or call Academy Software on 0181 656 9560.

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PRINTERS

Apple StyleWriter II	£199
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HP DeskWriter 560C	£349
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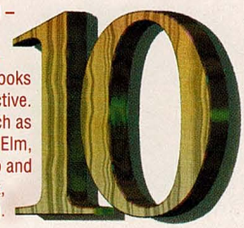
Scratching the surface

3D textures and materials

In 3D modelling programs, texture, like beauty, is often only skin deep. Brian Larkman explains how to create the illusion of tangibility in the third tutorial in our 3D series.



Wood – Procedural – wood is quite difficult to handle in the Wood editor, but this looks reasonably effective. Bitmapped wraps, such as the Wraptures Burr Elm, used on the top and bottom of the clock, look more convincing.

Metallic – the gold surface here has a high Metallicity setting. This makes the specular reflections a similar colour to the object.

Glow – at its fullest extent, the Glow effect removes all shading. Here it is set to 80%, so some form is visible.

MORE 3D

This is the third part of our 3D series. The series started back in MACFORMAT 21 with an introduction to 3D, and last month we showed you how to get started in 3D modelling using a range of demo programs on the CD – there was even a bonus 3D disk on the HD disk edition. If you missed either of these issues you can order them now on page 108.

Visually, two things define the objects we see and use in this world: their form and their surface texture. Last month we looked at the techniques in 3D programs for creating the form of objects. This month we'll put some meat on the bones, and look at how to simulate real life materials and their surface texture.

Like people's faces, physical objects carry clues to their history. You can learn about the origins and internal structure of an object through seams and creases, grain and texture, and colour and pattern, while cracks and dents, scratches and stains, corrosion and wear tell us much of its 'life' and function. To create realistic 3D illusions on your Mac, your work must show all these visual clues.

Try 3D for yourself with the demos on this month's cover CD-ROM!

All these clues are visible because of the way light is absorbed or reflected by the object (see the 'Real Materials' box below). The most sophisticated 3D graphics programs enable you to simulate the actual physical processes of reflection and refraction: by bouncing rays of 'light' repeatedly inside the model, the basic reflections, highlights, and transparency are represented extremely accurately.

But there are limits to what can be represented in this way; you'll eventually get bored with billiard balls, etc. For the detail, you need to use Texture Mapping.

There are basically two ways to create and display textures on modelled objects: surface mapping and procedural mapping. Surface mapping takes a flat, bitmapped image – text, illustration, photograph, real texture, etc – and wraps it onto the surface of an object. This creates an illusion of a solid material that is, in fact, hollow.

Procedural mapping uses descriptions of three-dimensional marks – colours, gradients, spots, lines, noise, swirls, etc – and projects them into a 3D space, filling the space completely but becoming visible only where the object is.

Whichever method you use, the map can define more than just the colour of the surface – for example, there are also Shininess and what we might call graininess (defined in terms of 'Bump' values, producing the effect that the pattern is 'embossed' into the surface). In most programs, each object can be mapped with at least one bitmap for each of these properties – or more. A simple spherical object could therefore be *Colour* mapped with an image of a leaf, *Bump* mapped with a greyscale version of the same image, modified to show the veins and ribs in relief, *Shine* mapped with another modified greyscale to make the tips glossy, and finally *Transparency* mapped to make the area of the sphere not covered by the leaf transparent (and therefore invisible).

Procedure mapping such a detailed leaf with vectors would take you hours, and would use a lot of memory. Using Texture Maps saves time and memory – and enables you to add detail that would be impossible with other techniques. Skin deep is deep enough! Here's how it's done...

THE OPTICAL ILLUSION OF COLOUR IN REAL MATERIALS

The world around us is visible only because light falling onto the surface of all materials is reflected and absorbed in a variety of ways before it enters our eyes. Every time a ray of light hits an object, some wavelengths are absorbed; what we see is the wavelengths that are *reflected*. (So plants look green because they can't absorb green wavelengths. This means the *worst* light to grow them under is green light – as in a greenhouse!) Pure white light is broken up all around us. Simple flat colour, blends and gradients, dots, grain, visual noise, stripes, swirls, patterns – all these are produced by the varying ability of surfaces to absorb light.

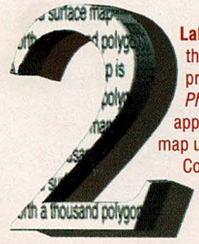
The way that light is reflected on the surface also has a great effect on what we see. Light bounces off an object according to the orientation of the surface at that point. If the surface is absolutely hard and smooth, the light will all be reflected at the general angle of the object's surface. Look at that object – the back of a spoon, perhaps – and you will be able to see a reasonable reflection of the light source, and any objects in that direction, tinted the colour of the object and distorted to the shape of the object. This is a shiny or mirrored surface.

If the surface is at all irregular, the light rays will be broken up and reflected at different angles from the general object surface. Slight roughness – on a plastic appliance or toy, for example – reduces the clarity of the reflected image and makes the object colour more noticeable. With greater roughness – the finish of your keyboard, perhaps – the reflection of objects becomes less distinct, though light sources remain visible as 'specular' reflections (that is, bright

Fractal – Mandlebrot – *Infini-D* is alone in providing Mandlebrot and Julia Fractal surfaces. This is the default.

Stone – Matte – this is a default sandstone texture produced using just colour and noise, with low 'reflectance' to give a matte surface.

Colour – Shiny Blue Plastic – a simple blue colour with high Shininess setting.



Label – Bitmap – the text here was prepared in *Photoshop* and applied as a colour map using the Compose Surface dialogue.

SKIN DEEP

Every part of this object is mapped with some sort of surface, but the numerals around the clock face display the range of textures available in *Infini-D* and other 3D programs. These textures are described individually around this page. For details of how the object was constructed and how the textures were added, turn the page.

Bump – the dimples used here are a simple greyscale image applied as a Bump map in the Compose Surface dialogue.

Marble – *Infini-D* has a very good procedural marble effect that allows control over colours, diffusion and swirl.

Transparency – Map – the lattice effect here is a bitmapped Transparency Map. This effect is perhaps less successful than some of the others illustrated...

Transparency – Plain – this sea-green transparency is just a little colour and a little wave effect added in the Surface Info dialogue.

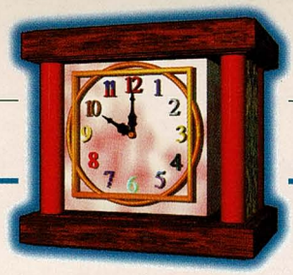
Reflection – as there was very little to reflect in this mirrored object an Environment map was used. This is projected onto every reflective surface (see the green reflection on the polished pillars on the right of the clock).

Continued on next page

points of light at angles and edges). On most materials these reflections are usually white, but metals have the ability to colour them. With more extreme roughness, even the specular reflections become diffused: you see a completely matte surface, such as unpolished stone.

The type of roughness also has an effect. The 'crackle' finish of a CPU is actually made up of tiny rounded bumps that, seen magnified, are quite shiny. Polished metal is usually a faceted surface of very fine crystals at angles only slightly off that of the object surface. This often produces a 'halo' effect around specular reflections. (Only the more powerful – and more expensive – packages such as *StrataStudioPro* can simulate this secondary smoothness fraction.) Some natural materials, and many manufactured ones, might have an even more roughened surface of larger bumps, cracks and crazing, or a patterned or woven texture. All these surfaces will reflect light differently in different areas.

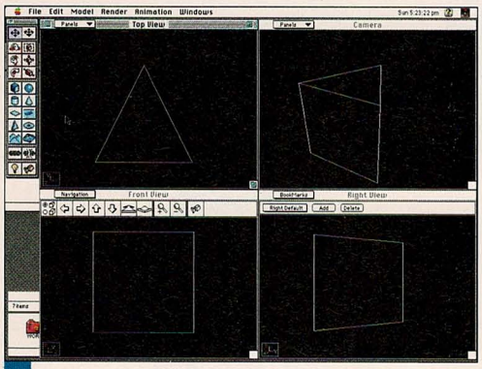
The way that light is bent, or 'refracted', when it is absorbed also greatly affects what we see if the material is transparent. In this case relatively more light passes into and through the material than is reflected. But the light passing through is bent to some degree. In this case you will be able to see objects and surfaces behind the transparent material, but the image will be distorted by the bending of the light, and coloured by the absorption of the material. If a light source is placed behind a semi-transparent object, it will glow to some extent. If the surface is also roughened, the light source will not be visible but the glow will seem to diffuse into the whole object.



Textures in Infini-D

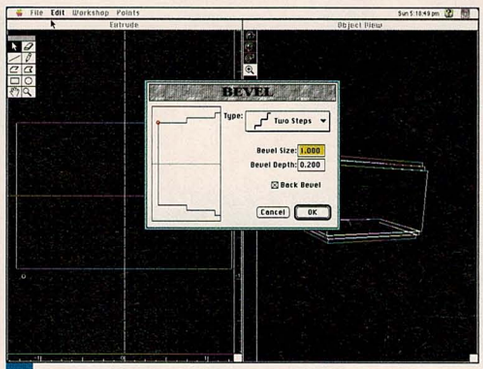
How to create an object and add textures to it

Let's go through the whole process using *Infini-D* from last month's cover disk. First we'll model the clock in our main illustration, then add surface textures...



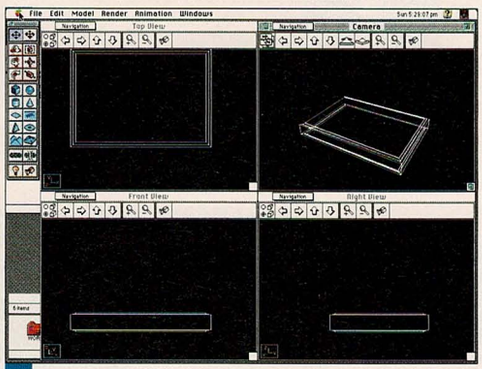
1 Base

The base is created with the Extrusion tool, which is highlighted here. The initial primitive shape placed when you click on the screen is a prism. This should remain selected so that you can immediately pull the **Model** menu down to **Edit Extrusion** so you can enter the Extrusion Workshop.



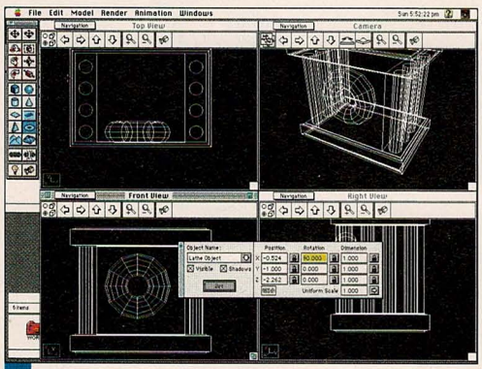
2 Bevel

The shape of the base is a simple rectangle, which can be formed using a suitable tool from the palette. The left window is for editing and the right shows a wireframe version of the final shape. The **Workshop** menu enables a Bevel to be added – in this case a double step.



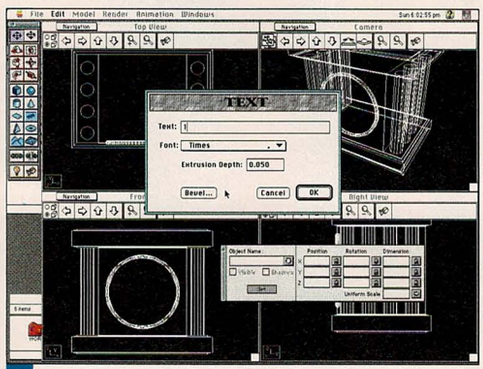
3 Positioning

Return to the main screen; the base will need orienting and positioning correctly. This takes a bit of practice so try using a simple cube. The Navigation tools help to get the screen set up correctly, but the Object Palette and its Position, Rotation and Dimension boxes enable exact numerical alignment.



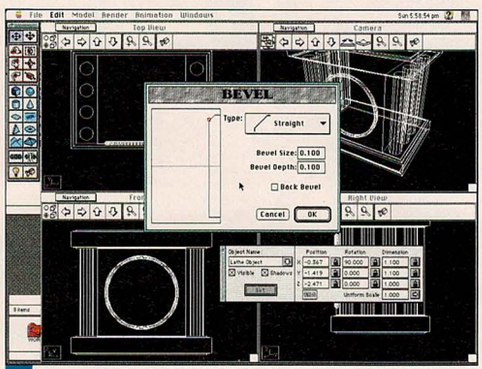
7 Bezel

The clock 'bezel' is a Lathe object added with the Lathe tool. The fat doughnut produced can be edited in the workshop (**Model/Edit Lath Object** menu). The section of the ring, its position away from the axis, and the number of divisions can be changed to get the correct proportions and smoothness.



8 Figures

Text objects can be created using the **Model/Text** menu. Select a font and size, and adjust the extrusion depth. Any Outline type font can be used, including the fancy Heiroglyphics from Deniart shown on the front of the Clock top. The text object can be re-edited later if required by using the **Model** menu.



9 Text Bevel

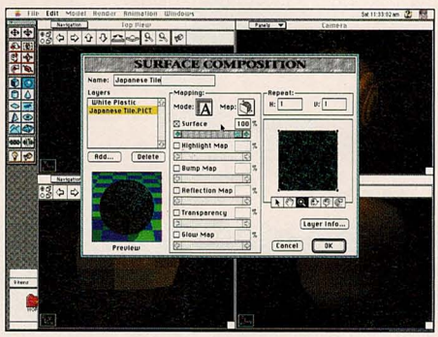
All text objects can be given one of a series of six different bevels within the Text editor. The size and depth can be edited interactively or numerically and the bevel can be placed on both sides if required. All of the four programs examined here have dedicated font editors that can apply bevels.

Software used

During this series, we'll be using a selection of the 3D modelling, rendering and animation programs available for the Mac. Different software may be used depending on the topics dealt with in each tutorial – although you should be able to have a crack at most things with our cover disk demo of *Infini-D*. This is one of the programs used this issue, along with *Alias Sketch 2.0, StrataStudio Pro* and *RayDream Designer 3.0*. For details on how to get hold of any of the other programs, see the list opposite.

How do they do it?

Here's a quick overview of the texture mapping or surface rendering functions offered by the main 3D programs, and how you use them...

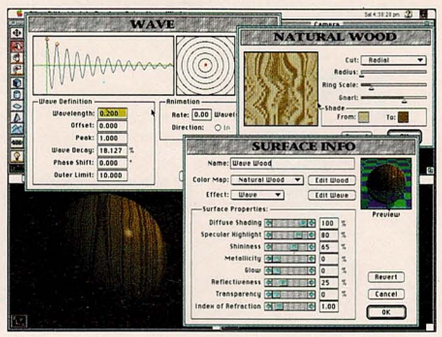


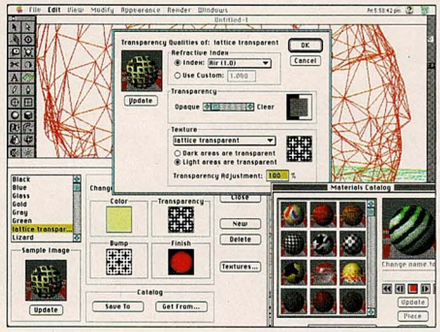
Infini-D Surface Composition Interface

Infini-D handles complex combinations of Procedural and Bitmapped surfaces with the Surface Composition dialogue – shown here. Bitmaps can be mapped using a variety of 'projections' (see the main illustration on pages 86-87) and with several modes. They can also be used to provide Bump, Highlight, and Glow Maps etc. This system is extremely powerful and easy to use.

Infini-D Surfaces Interface

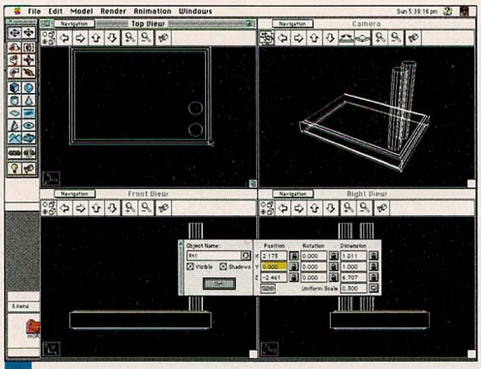
Infini-D provides an extremely powerful but easy-to-use set of tools for creating textures or 'Surfaces'. Both procedural textures – handled via the Surface Information dialog shown here – and Bitmaps – loaded via the Get Image dialog – can be applied to objects. The 'Wave Wood' surface shown here is composed using the Wood ColourMap and the Wave Effect. Other parameters such as Diffuse Shading, Shininess, and Glow etc can be set using sliders. The Preview is automatic.



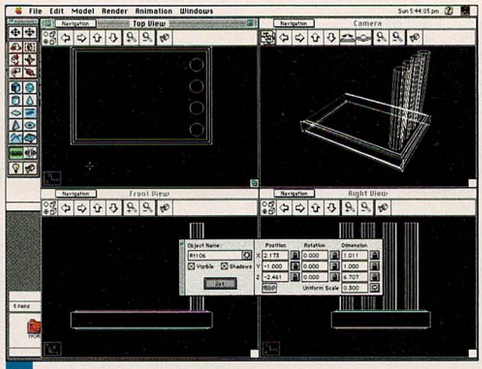


AliasSketch Materials Interface

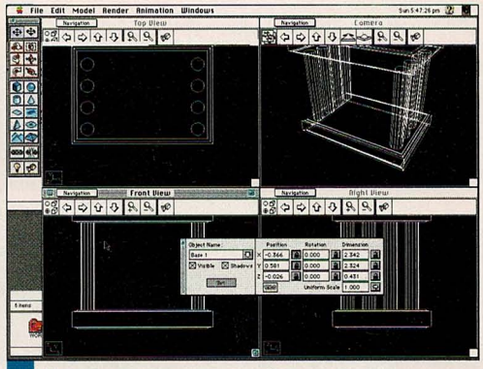
Sketch uses no procedural mapping, and has only texture, bump and transparency mapping – the most limited range here. The **Material** editor has four main areas to control Colour, Transparency, Bump and Finish, using sliders and image requesters. 'Colour' manages plain, textured and glowing colour; **Transparency** edits opacity, transparency mapping and refractive index; and **Bump** controls bump mapping and height. **Finish** has sliders for Highlight, Diffusion, Reflectivity and Highlight Colour, plus 16 sample spheres for finer adjustment.



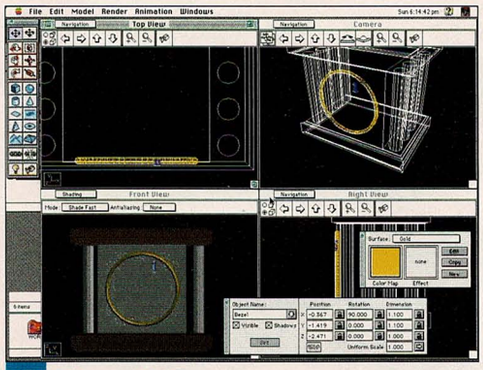
4 Pillar
These two pillars are Cylinder primitives. The first is placed with the Cylinder tool then resized using the Object Palette Dimension box. The diameter (xy) is reduced and the length (z) increased. The first pillar is Copied and Pasted to make the second, which is then moved one unit in the y direction.



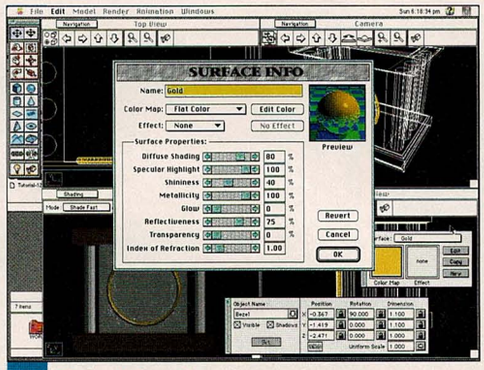
5 Links
The third and fourth pillars are also Copied and Pasted, then moved one unit up using the Object Palette Position box. The four pillars can then be Linked. Select the top pillar then select the Link Tool (highlighted) and click on the third, second and first pillars in turn. This links them all to the first – parent – pillar.



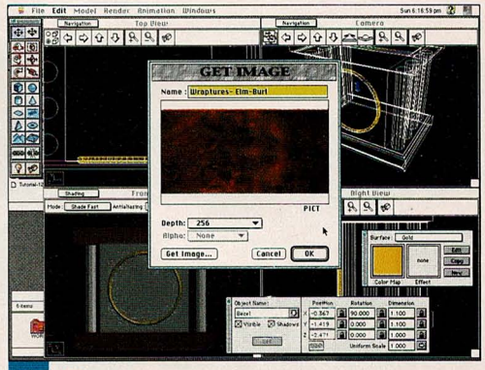
6 Top
Copying the parent pillar duplicates all four. These can then be moved across the base – visual alignment is normally sufficient. The base can similarly be copied and moved vertically. Its alignment with the top of the pillars can be checked in the front or right windows.



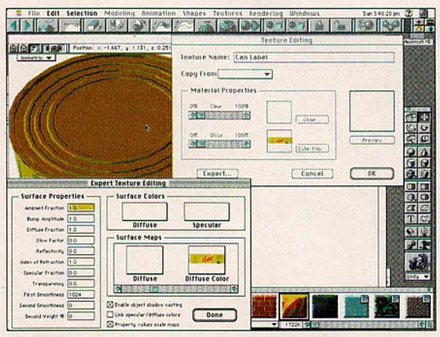
10 Colour and Position
Eventually it gets difficult to position objects, so it's important that some are coloured to distinguish them. This is simple to achieve using the Surface Palette. The surface name is a pop-up menu, where a wide variety of colours and surfaces are provided. Click on the Edit button to customise any surface.



11 Surface Information
The Surface Information palette enables a huge amount of control over standard surface parameters, plus the ability to set up new materials with wood, marble, noise and corrosion controls. It is well worth spending a lot of time just experimenting here and saving the results for use later. Who needs games?

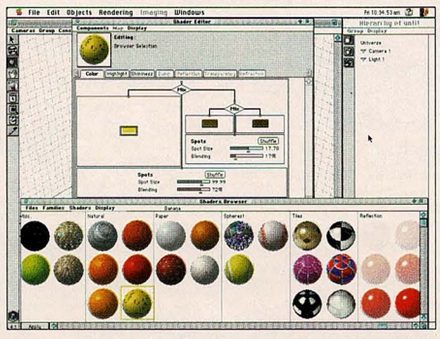


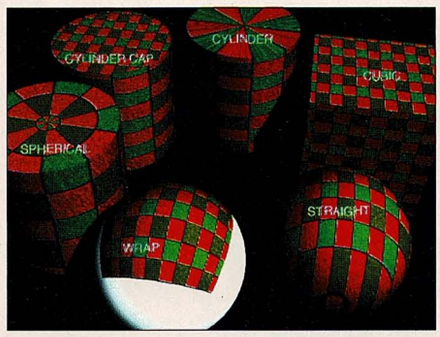
12 Bitmaps
As well as the procedural textures on the Surface Info palette you can use bitmaps to wrap onto objects or map other parameters. Bitmaps can be loaded using the **Get Image** menu command, then added to the Surface list. They can be wrapped direct, or Added to a composite surface in the Compose Surface palette.



StrataStudio Pro Textures Interface
StrataStudio Pro provides control over more material properties. The **Texture Editing** dialogue has two levels: a simple system with just two sliders labelled Clear and Gloss, and requesters for Colour and Colour Map. But selecting the **Expert** button brings up a more detailed dialogue, with control over every property, using both procedural (or Solid) and surface texture mapping techniques. Most properties can be mapped with eight-bit bitmaps. The Solid texturing methods include dot, bevel, marble, stone, wood, rotoscope and mixer.

RayDream Designer Shaders Interface
The most unusual texture or 'Shader' editing system is RayDream *Designer*'s, based on the concept of channels. Seven channels are provided to control Colour, Highlight, Shininess, Bump, Reflection, Transparency, and Refraction. Each of these can have one or more components of: texture map, value, colour, operator, pattern function, and natural function. The unique part of the system is that any of these channels can be used and reused in a hierarchical 'tree' system to produce unique combinations of procedural and surface textures.





Mapping Methods
Bitmaps can be applied to surfaces in different ways. Each program has variations, but the basic types are illustrated here. **Straight** is like a slide projected from one direction – perfect on flat surfaces, but distorted at the sides of rounded shapes. **Cubic** is projected in six directions as if onto the cube's faces. **Cylindrical** is wrapped around one of the axes. **With Caps** projects flat onto either end. **Spherical** wraps around the object and 'crimps' the top and bottom of the map to fit the poles. **Wrap** pulls the four corners of the map around the sphere.

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Key: EM = Express Modem, GS = Greyscale, PM = Passive Matrix, Col = Colours, AM = Active Matrix, Thou = Thousands

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Stacks for all Macs

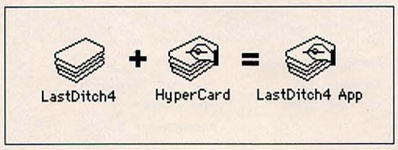
HyperCard 2.2 has one important advantage over previous versions – it can create stand-alone applications that you can run on any Mac. Rod Lawton explains what this can achieve...

HyperCard is a great piece of software, but it's always had its limits. Until now, the only people who could use the stacks you created were other _HyperCard_ owners. They could have seen that you'd created the best stack in the world, but other Mac owners couldn't.

Things have changed. Now you can produce applications that anyone can use, thanks to version 2.2's stand-alone application-building ability. A big step forward? Yes, but in fact it's an extension of the previous _HyperCard_ philosophy...

Version 2 was given away with Macs – at least, a cut-down 'demo' version, which was easily 'unlocked' to enable full functionality. And what's more, a special 'player' was made available to the developers who worked with version 2.1, and a special licensing agreement enabled such developers to include a 2.1 player with their stacks.

With version 2.2, what's effectively happened is that the 'player' module can now be 'attached' to your stacks, producing a stack that can run itself. This isn't how it actually works in programming terms, but is the easiest way to think of it.



Think of each stand-alone application as being a rather small and inoffensive stack being tacked onto a vast and lumbering _HyperCard_ 'player'.

There's been a shift in _HyperCard_ philosophy over the years. Back in the late '80s, Apple seemed to want every Mac owner to have a copy, almost as an extension to their Mac. Now _HyperCard_ is being marketed as a two-level tool. At a development level it's being pushed as a programming/presentation tool. But at the user level it's being pushed as a multimedia player.

This means that if you want to do more with _HyperCard_ than just look it at – and if you don't have one of the earlier free versions – you have to take the plunge and buy the Developer's Kit. But you do get quite a lot for your money. It's all been documented in the last few instalments of this series. Its biggest single feature is its programmability...

Programming made easy

Think about it. There's no quick and obvious route into Mac programming. Most other machines have a version of BASIC, the language most often taught in schools, and the easiest programming language to learn. No such luck with the Mac. The most favoured programming language appears to be C, which is about as user-friendly and intuitive as a BR timetable... from 1934.

This is why _HyperCard_ and HyperTalk make such a wonderful combination. You can build _HyperCard_ stacks without any HyperTalk knowledge, so you can learn how to write scripts at your own pace, attaching them to your stacks to add to their functionality. And since HyperTalk code is attached to individual objects rather than whole stacks, you can experiment on a small scale before attempting anything larger.

Best of all, HyperTalk is an object-based programming language; it works around and with _HyperCard_ objects. Combine that with the fact that _HyperCard_ is built to produce user-friendly interfaces and you have all the ingredients for a superb programming language.

There are many things that 'real' programming languages can do that _HyperCard_/HyperTalk can't. Even so, _HyperCard 2.2_ is a superb first programming tool for the Mac; it's a sufficiently powerful language to enable some extremely useful utilities and applications.

Write your own utilities

What's the difference between a utility and an application? If there is a difference, it's basically one of size and scope. Software is an application if it tackles a broad subject like word processing or image manipulation. A utility is a piece of software that does a single job, possibly a sub-set of a broader task. An application that converts text files from one word processing format to another is a utility.

HyperCard is great for writing utilities. HyperTalk has some extremely useful commands. The file-reading command is powerful enough to read just about any file type. Simply loading a file into a HyperTalk variable and writing that variable to another file will convert even the

HyperCard 2.2 comes with an innocuous-looking System Extension that offers you huge potential – it enables you to make a stack into a stand-alone application.

COVER DISKS

This month we are giving away the utility _LastDitch 4_, which converts any text file into a plain text format that any program can read. On the CD-ROM you'll find the stand alone application and on the floppy disk you'll find a _HyperCard_ stack version.

Continued on next page

HOW TO CHEAT

With a bit of programming ingenuity it is possible to overcome some of the limitations of _HyperCard's_ stand-alone application-building process.

Okay, the end user can't create or modify fields or buttons in the finished application. Maybe not. But creating fields and buttons (and copying, cutting and pasting) is the only thing that needs a doMenu command – everything else that you can do with fields can be done with HyperTalk handlers.

So why not create, for example, a dozen fields and buttons and then hide the lot? When you want a new field/button, you simply 'unhide' one of the 12. You can do this with a HyperTalk command. And you can set the field style, font style and size, field size and field location with HyperTalk commands. Sneaky, huh?

The key to _HyperCard's_ immense programmability is that you can write and test code in self-contained segments. Any _HyperCard_ object – buttons, fields, cards, backgrounds and stacks – can have a script containing any number of handlers intercepting any one of dozens of different messages. These scripts can all be written, tested and fine-tuned independently.

THE FOUR FUNCTIONS OF LASTDITCH

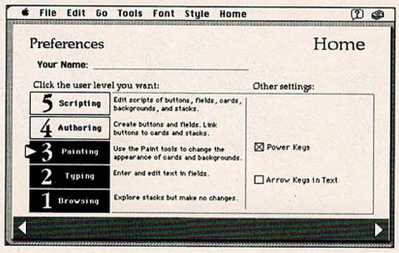
This button displays a message in a pop-up field. After five seconds – long enough to read the message – it displays another, then hides the field a few seconds later.

These buttons contain scripts for doing the four different jobs _LastDitch4_ carries out.

This button displays a field explaining what _LastDitch4_ does. This field itself has a script that hides it with a mouse click.

The four buttons above left not only carry out the _LastDitch4_ functions, they also display messages in this field to tell you what's happening.

The bad news about stand-alone applications is that *HyperCard's* user level is set to three or below – you can't create buttons or fields.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Click the user level you want:
Other settings:
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Power Keys
Arrow Keys in Text

most alien file formats into an ASCII file that any word processor can read. The whole process takes no more than a couple of seconds or so, even for large files.

The 'picture' command is useful too. It can display any PICT file in a separate window, enabling you to view PICTs without having to load up a separate paint/drawing package. You can even load PICTs, saving their filenames into a scrolling index field. With a bit more coding you can subsequently view each PICT in that list simply by clicking on its name.

HyperTalk also enables you to open specific documents with specific applications. It can record the last ten documents you opened, group together lists of related files stored in completely different locations on your Mac, and more.

These are just examples of what *HyperCard*/HyperTalk can do. And with the stand-alone capability of version 2.2 they attain much more significance. No longer are these commands useful only within *HyperCard* stacks – now they can be used on their own.

Now the bad news...

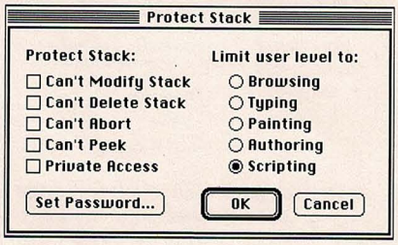
The stand-alone capability of *HyperCard 2.2* has two problems. The first is the size of stand-alone applications. These applications were earlier described as being stacks with a 'player' grafted on. Do a little calculation. Add the file size of the *HyperCard* application to the size of your raw stack. Then compare it to the size of the final stand-alone application. Not too dissimilar, are they?

Even if your raw stack is only about 11K, the resultant stand-alone application is going to be near 800K. And it'll need about 1Mb to run in. It had better be a pretty impressive utility...

There's worse to come. Stand-alone *HyperCard* applications don't have full *HyperCard* functionality. Which is a wordy way of saying that they have a limited user level. Basically, they work at user level three or below, which means that you can't use the field or button tools...

The documentation points out the 'benefits' of this – you, the developer, have precise control over how much the end user can fiddle with the application.

Apple argues that the limited user-level of stand-alone applications enables you to control the degree to which users can meddle with your stacks. Hmm... so does the Protect Stack dialogue. Who's kidding who?



Hmm... you can do that with the Protect Stack dialogue options anyway, so that's not actually that great.

In fact, you could argue that the cut-down-ness of the stand-alone applications means that they don't do anywhere near as much as the full *HyperCard* application. (And if they did, there wouldn't be much point in buying the Developer's Kit in the first place, would there?)

Given that the stand-alone applications don't have the authoring and scripting tools available, you can't build in scripts to create fields and buttons. The only way to build in these scripts is via a **doMenu** command, and if the menu isn't there, it won't work... Yet there are ways around some of these limitations, depending on your ingenuity and persistence. (See the 'How to cheat' box on page 89.)

2.2 – who needs it?

Despite the limitations, many, many programmers and/or software developers will find this stand-alone capacity useful.

1. Programmers will find *HyperCard* capable of generating some excellent utilities – and it has all the tools you need to create an extremely slick and friendly front end. It's what it's built for!

2. Or maybe you want some kind of interactive tour? Perhaps your company has just installed new software, or perhaps you want to write an interactive Mac-based induction course for new employees. *HyperCard 2.2* has all the tools to produce an excellent tutorial, and it can produce a stand-alone document too. You won't have to pay Apple any licensing fees when you distribute it, either.

Future Publishing, the power behind MACFORMAT, has over 400 employees, most of whom work on Macs. But they don't all have the same software installed. The accounting department would think *QuarkXPress* was some kind of particle accelerator, while the designers would imagine an *Excel* worksheet was a brand of protective floor covering. The point is that if the system manager wanted to disseminate information, what file format could everyone read? One that was a self-contained stand-alone document... **MF**

NEXT MONTH

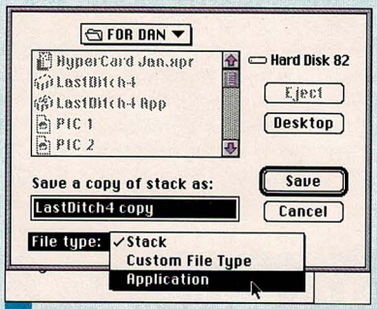
Can *HyperCard* really cut it as a programming language? 'Professional' languages may be faster, they might hit the hardware at a lower level and produce much more compact code. But they're also tough to learn and tougher still to master. *HyperCard's* secret is not really power or speed – it is versatility, the ability to combine a wide range of objects and techniques in new and innovative ways. Starting next month, we'll be looking at some useful (I hope) – and different – Mac applications.

STEP-BY-STEP

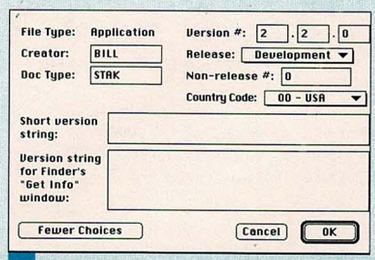
Let's see this stand-alone application building process in action. Not that it's a very long process. On the cover disk this month you'll see a stack called *LastDitch4*. You may remember an earlier incarnation of *LastDitch* from a few months ago – it was a utility that could read just about any file and display it as ASCII text, exporting it to an ASCII text file if required.

Well, this is a development of the same idea with a few more bells and whistles. The main point, though, is to illustrate how *HyperCard 2.2* can be used to develop a powerful and useful stand-alone utility.

1 Develop the stack as usual. But be *very* careful about using **doMenu** commands. Make sure the menu's actually in the cut-down stand-alone version! This is about the only exception – any other HyperTalk command will work.



2 Choose the Save a Copy command. You'll see the familiar file-saving dialogue, but next to the filename field you'll see a pop-up 'file-type' menu.



3 It looks like it means business! Custom file types can safely be left to programming experts; for our purposes we just want to type in a version number. It makes you feel like a real programmer – it's great.

4 A new file will shortly appear on the Mac. Note that it doesn't have the usual *HyperCard* stack icon – instead it has a *HyperCard* application icon.

Anyone can now double-click on this icon to use the utility we've just written. And within five minutes they'll be giving you a list of bugs and suggested improvements. You didn't throw away the original 'raw' stack, did you? There's no way you can edit the stand-alone application, and you can't use it to recreate the raw stack.

This is a bit of a bind. The only way to modify your stand-alone application is to modify the raw stack, then re-save it as an application.

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DESKTOP MUSIC

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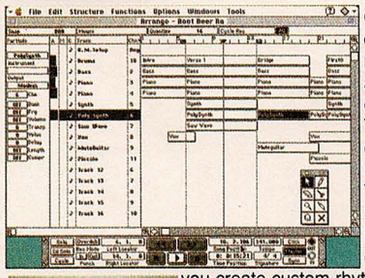
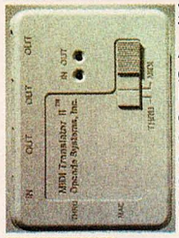
AUTHORIZED DEALER Steinberg



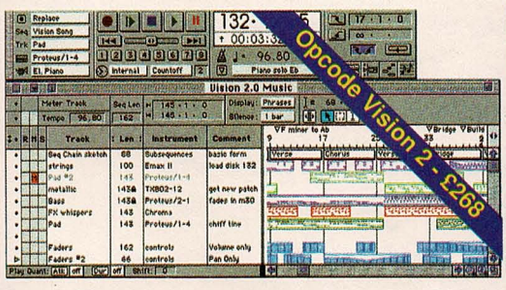
Cubase is Steinberg's open-ended concept designed to embrace today's important technologies and tomorrow's technological advance.Cubase offers a piano roll editor, list editor, custom drum editor, and notation editor. The arrange window takes the guesswork out of song construction. To cut a phrase in two, use the scissors - to join, use the glue tube ! The heart & soul of a song is the feel. Sequencers never had a reputation of capturing a musicians natural feel, but Cubase changes all that. With the "Groove Quantize" you create custom rhythm templates that let your music groove !



The range starts with Cubase Lite and goes all the way to Cubase Audio which adds multitrack direct-to-disk recording. All you need to get you going is a MIDI instrument, a MIDI interface like the Translator II MIDI Interface (pictured left) and any Mac, with System 7 and 4Mb of RAM, from an LC upwards.

Cubase Lite	£74.00
Cubase 2.5	£289.00
Cubase Score	£389.00
Cubase Audio	£634.00
Micro Mac Midi Interface	£41.00

OPCODE SYSTEMS INC



Opcode Vision 2	£268.00
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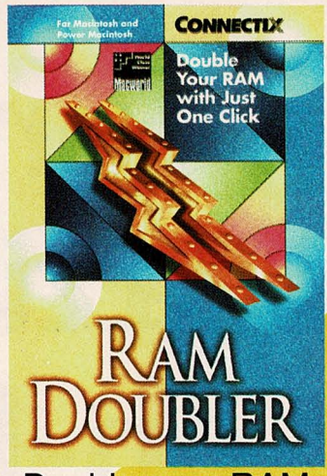
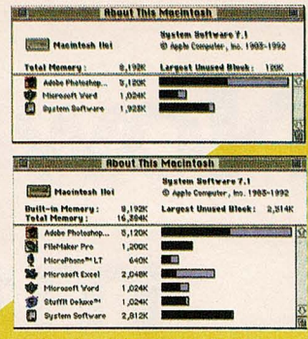


Double your RAM for just £60 !



CONNECTIX

Ram Doubler gives you twice the memory without the expense of adding SIMMs. Ram Doubler uses 3 methods to increase your memory. It reclaims unused memory that has been allocated to open applications, takes memory that is in use but not likely to be used again and compresses it and finally, if necessary to preserve performance, Ram Doubler will store some compressed information on the hard drive. The result of these 3 methods is a true doubling of application memory.

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Hypertalk 2.2 The Book	£32.50	PhotoShop Now & CD	£32.38*
Illustrator 5 Mac Quick Start	£17.95	Programmers Cookbook & Disk	£22.42*
Illustrator Book & CD	£40.95*	Quark Xpress Book	£29.99
Inside Macintosh Vol 3	£18.95	ResEdit Complete & Disk	£27.67*
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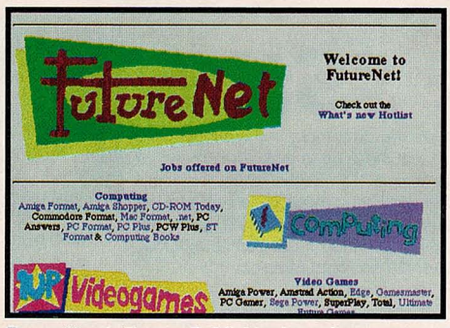
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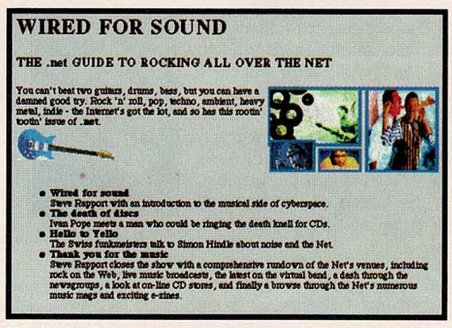
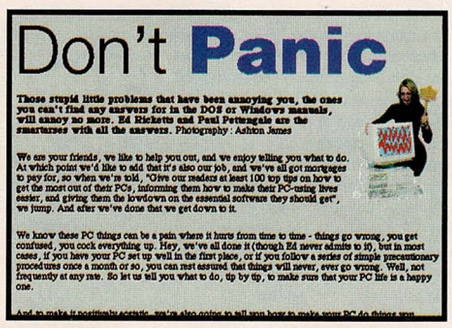

WIRED FOR SOUND
THE .net GUIDE TO ROCKING ALL OVER THE NET
You can't beat two guitars, drums, bass, but you can have a damned good try. Rock 'n' roll, pop, techno, ambient, heavy metal, indie - the Internet's got the lot, and so has this month's tootin' issue of .net.
Wired for sound
Steve Rapport with an introduction to the musical side of cyberspace.
The death of discs
Ivan Pope meets a man who could be ringing the death knell for CDs.
Hello to Yello
The Swiss funkmeisters talk to Simon Hindle about noise and the Net.
Thank you for the music
Steve Rapport closes the show with a comprehensive rundown of the Net's venues, including rock on the Web, live music broadcasts, the latest on the virtual band, a dash through the newsgroups, a look at on-line CD stores, and finally a browse through the Net's numerous music mags and exciting e-zines.

You'll find the latest information on new issues and forthcoming special offers.


Don't Panic
Those stupid little problems that have been annoying you, the ones you can't find any answers for in the DOS or Windows manuals, will annoy no more. Ed Ricketts and Paul Pettengale are the smartarses with all the answers. Photography: Ashton James
We are your friends, we like to help you out, and we enjoy telling you what to do. At which point we'd like to add that it's also our job, and we've all got mortgages to pay for, so when we're told, "Give our readers at least 100 top tips on how to get the most out of their PCs, informing them how to make their PC-using lives easier, and giving them the lowdown on the essential software they should get", we jump. And after we've done that we get down to it.
We know these PC things can be a pain where it hurts from time to time - things go wrong, you get confused, you cock everything up. Hey, we've all done it (though Ed never admits to it), but in most cases, if you have your PC set up well in the first place, or if you follow a series of simple precautionary procedures once a month or so, you can rest assured that things will never, ever go wrong. Well, not frequently at any rate. So let us tell you what to do, tip by tip, to make sure that your PC life is a happy one.

Articles from back issues are available free to search and browse.

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MACANSWERS

GOT A PROBLEM WITH YOUR MAC? WE'RE HERE TO SOLVE IT!

Welcome to MacAnswers. This month Jim Chandler, Simon Cox, Stuart McHugh and Derek Smith are here to solve your dilemmas. Please use the form on page 98 to tell us your woes, and we'll do our best to help you. Please note that we are unable to answer queries over the phone. One poor reader tried it and got through to our Art Assistant, who is great at laying out the magazine, but whose Mac problem-solving extended to: 'Pull the plug out of the socket'! Oh well, here is some slightly more technical advice...

Time and motion

DESKTOP

Q *Having recently purchased a Mac I have found it much easier to use than a PC. However, I find that it can be time consuming copying a lot of files from one disk to another. Why doesn't System 7 have a File Manager like the PC?*

Mary Pearsons
Kings Lynn, Norfolk

A The Mac Desktop can be a very efficient way of handling files, but some of its more useful features may not at first be apparent. Here is a guide to getting the best from your Desktop.

1. You can select more than one icon at once by holding the **[shift]** key and clicking on several icons. But all the icons do have to be in the same folder. You can deselect individual icons by holding down **[shift]** and clicking on them once again.
2. You can select several icons in a block at once, by clicking the mouse in the blank area between icons, holding down the mouse button and then dragging a selection box around the icons you want. You can deselect a block of icons by holding down **[shift]** and dragging another box over the icons for a second time.
3. Select all the icons in a window by choosing **Select All** from the **Edit** menu. By using this and the previous two methods in combination, you can quickly select any combination of icons you want in a window.
4. To copy an icon from one folder to another on the same disk, simply hold down **[option]** as you drag it across. This has the effect of copying files as if you were moving them from one disk to a second separate disk, rather than just moving them around on the same one.
5. To select a single icon in a window without touching the mouse, just type the first letter of its name on the keyboard. If several icons have the same first letter, type the first couple of letters of the icon's name in quick succession.
6. To select the next icon in a window alphabetically, press **[tab]**. Pressing the arrow keys selects the icon in that particular direction.
7. To open a folder or file using the keyboard, press **[command] O**. **DS**

Hard choice

STORAGE

Q *I have an LC 4/40 and the hard disk is filling up. Should I buy an 80Mb internal drive? Can I connect a CD-ROM drive to the SCSI port in addition to a hard drive?*

Stephan Carter
Bristol, Avon

A My advice is: don't upgrade your internal drive, and certainly not to 80Mb. Buy a larger external drive. There are several reasons. First, although an external drive typically costs £50-£80, which is more than an internal one, you'll get an extra 40Mb of disk space for your money. Second, you'll have a spare hard drive to back up your work. If your internal drive breaks, you'll have your backups on the external drive. If you also install a System Folder on the external drive, you can boot up from it, in the event of problems with the internal one.

Another reason that you should buy a larger drive than 80Mb is that you can never have too much room. And with companies like Gasteiner (tel: 0181 345 6000) offering 500Mb drives at £280, large drives are a bargain.

If you want a CD-ROM drive as well as an external hard drive, then it's easy. You can have up to six external devices daisy-chained together. All SCSI devices have two identical ports at the back. One cable will connect the Mac to the first device, and another cable will connect the first device to the second – and so on until you have six external devices. When you buy a SCSI device, you usually get a cable in the box that connects the device to the Mac. But you need a different cable to connect two devices together, so ask your dealer nicely and he may swap them for you. If you have any trouble, then Videk (tel: 0181 204 6690) is a cable specialist.

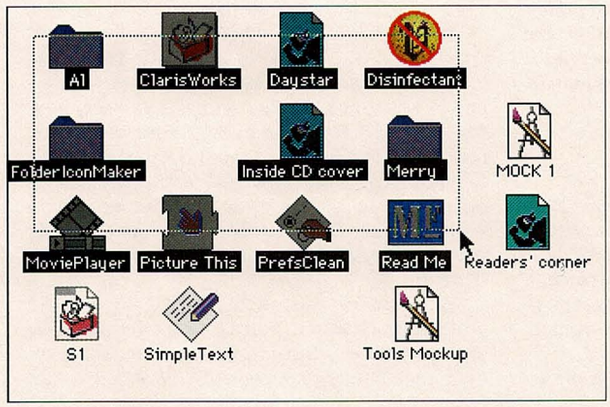
Now I've told you how to connect a CD drive, my advice is don't bother. Most CD titles need more RAM than 4Mb and a faster Mac than an LC. You'd be able to access most of the shareware on Mac-

WHAT IS A MACRO?

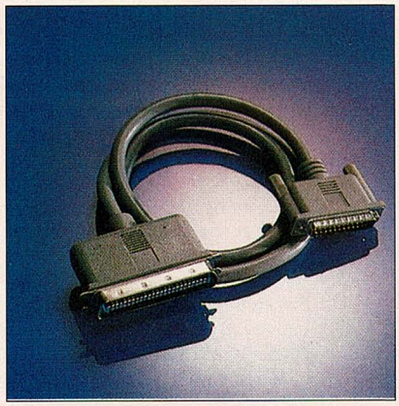
There are several programs that enable you to record macros – sequences of keystrokes and mouse clicks that can be replayed at a later time. This means that when you trigger one, your Mac can carry out a whole series of commands for you automatically.

SHORT CUT

You can close all the windows you have opened on your Desktop at once by pressing **[option] [command] W**.



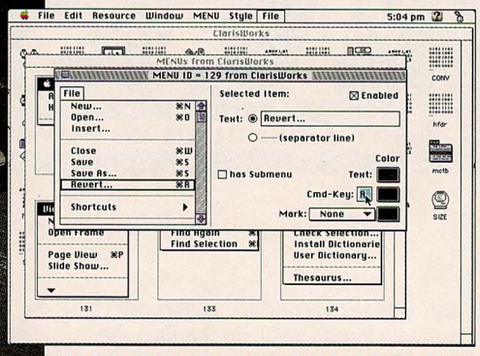
To select lots of files and folders in one go, click the mouse in the blank area between the icons, hold down the button and drag a selection box around them.



This cable enables you to attach a SCSI device to your Mac. It is usually supplied with the SCSI device....

... but you can't connect two SCSI devices together with it – you'll need one like this instead.

Apple's extended keyboard gives you an extra row of keys along the top, but do you really need them?



ResEdit enables you to assign certain keystrokes to pull-down menus, but not the Functions keys unfortunately.

FORMAT's cover CD, although very few of the demos. Wait until you get a faster Mac before you get a CD-ROM drive. **DS**

A key too far

HARDWARE

Q *I've recently bought an LC630 with an extended keyboard. But how do I program the Function keys, to cut and paste, etc? There doesn't appear to be any software provided with it to do so.*

Philip Roy
Balham, London

A Well, if you have an extended keyboard, the Function keys you mention will actually be pre-programmed: F1 = Undo; F2 = Cut; F3 = Copy; and F4 = Paste. You'll find that in the Finder these keys work fine; maybe it's your software that doesn't support them.

If you want to go beyond these functions and make use of the other 11 keys, you'll need to program some macros. Apple used to bundle a utility called *MacroMaker*, which was simple, but only worked with System 6. A better commercial alternative was *QuicKeys* (£135 from Frontline, tel: 01256 463344).

However, System 7.5 now comes with AppleScript, Apple's own professional macro language. The problem is that the scripts you create are now less like simple keyboard macros and more like mini programs, so once again, assigning keystrokes is a difficult task. While Apple is pushing the scriptable Finder, and AppleScript in general, the main motive behind them is to facilitate future speech recognition rather than to make the Mac's operation simpler.

This may lead you to wondering what the point of those Function keys is when they are so difficult to use. The fact is that

TACKLING THOSE PRINTER BLUES

Printers can be a pain – they eat paper, cover you in toner and sometimes even refuse to print. Most of the time, with a little bit of perseverance, you can sort these problems out yourself, but for the more technical ones you will probably need some advice. Jim Chandler and Stuart McHugh are here, ready to put your mind at rest...

Jet engine

PRINTING

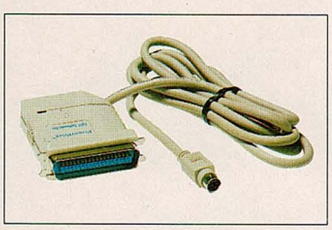
Q *I have a Hewlett-Packard DeskJet 550C. Is there any way I can use it on the Mac, or do I have to buy a DeskWriter? Would a PowerMac be able to use it? Is it just a matter of the proper cable and driver, or is extra hardware needed?*

Neil Wingar
Belfast

A The DeskJet series is designed for use with PC compatibles and other machines with a Centronics, or parallel, interface. The Mac has two serial ports, but no parallel port, so cannot easily use a DeskJet.

The DeskWriter series is designed specifically for Mac use, and has a serial port that can be used to connect directly to a Mac, or to a LocalTalk network. It is possible to buy cables and drivers that convert the Mac's serial QuickDraw output into a form that your average parallel printer can understand, but they are rather on the expensive side. One of the most widely used is PowerPrint from Academy Software (tel: 0181 656 9560), but this will set you back about £130. For that price, you could get hold of a second-hand StyleWriter, or you could be a third of the way towards a DeskWriter 550C.

I'm afraid that upgrading to a PowerMac won't help you with your printer problem. The PowerMacs have the same arrangement for printing as all the other Macs. **JC**



The PowerPrint cable comes with all the software needed to make most PC printers work with a Mac.

Losing your memory

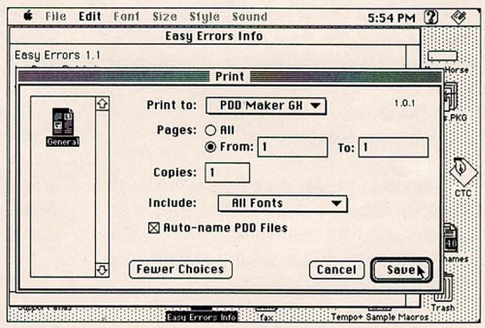
PRINTING

Q *Can you tell me how to persuade the PrintMonitor to retain its memory after printing? It is hugely time-wasting – especially after printing a graphic that may take ten minutes plus to load and print – to have to go through the whole effort again, for the final print run. Is there no way to be able to print a sample (typically just one page), check it, and if satisfied go straight on to do the proper print run?*

Mr L M Burn
Guildford, Surrey

A *PrintMonitor* is the software part of your Mac that enables printing. The problem is that it is just a spooler, and not all that intelligent – it makes a temporary file on disk, and dispatches this to the printer in the background, thus releasing the Mac to carry on regular work. And it deletes the temporary file when it's finished.

It's always possible to print a PostScript file to disk – with the LaserWriter driver from version 7 onwards you can select the option to print to file. You then need to send this code to the printer, by downloading it using the LaserWriter utility that came on disk with your printer.



QuickDraw GX comes with System 7.5. It enables you to save files in a format that can be opened by anyone else with QuickDraw, even if they don't have the program it was created with.

Another way to do what you require is with QuickDraw GX, which is contained in System 7.5. QuickDraw GX improves printing technology on the Mac considerably – which is probably why it's replaced *PrintMonitor* in 7.5. What you can do is to generate a Portable Digital Document, which is a file that you can then read onscreen before finally printing, and print as many times as you want. You can also use this to give files to people who don't have the application that you created them in.

Unfortunately though, this isn't going to make printing much faster. There isn't a direct solution to your problem. But this new system is a more than adequate replacement for *PrintMonitor*, and

Apple never really wanted them, but was forced into producing extended keyboards for people who complained that PCs had more keys than their Macs. So extended keyboards are really for people who boast that their car has 16 valves but don't know what it means. **SMcH**

Font hunt

FONTS

Q *Some of my fonts are missing and jagged after my grandchildren's session on the Mac. In* ClarisWorks, *only Chicago, Geneva and Monaco show, but they are jagged and incomplete. I have enclosed some printouts of the contents of my System directory that may be of help. I have taken note of your article on damaged fonts in* MACFORMAT *17, but I can't follow that procedure as the System software is installed at the factory (daft idea). Could I get a copy of System 7.1 from Apple?*

Mr W Findlater
Aberdeen

A Your printouts are indeed of some use. In fact, a quick look at your System Folder reveals the problem: your Fonts Folder is empty! For some reason, known only to your grandchildren, your fonts have been moved to your Extensions Folder, inside the System Folder. This used to be where they lived, but not since System 7.1. Just drag all the font suitcases into the Fonts Folder, and start up *ClarisWorks*. You should find all your fonts restored to their former glory.

You may wonder how you managed to access Chicago, Geneva and Monaco, if no fonts were installed? Well, Apple, in one of its brighter moments, decided to store bitmap versions of these three fonts in the ROMs of the SE and all later Macs, so the Mac would always be able to display text, even if the fonts couldn't be read from the startup disk.

As for Apple's policy of not supplying a set of System disks with Performas, it is, as you say, a daft idea. Apple's advice is that Performa users should back up their entire hard drive to floppies when they first unpack it. The reason for not including System disks is that it is too confusing for beginners, but Apple expects those same beginners to make a backup! To get a set of System disks, try talking nicely to your local Apple Centre or call the Performa Helpline on 01753 615995. **JC**

Dreaming of a white Desktop

SYSTEM SOFTWARE

Q *Having recently upgraded to Apple's excellent System 7.5, I have come across a curious problem. I take a lot of screenshots and want a white Desktop for the background, but can't get one with the Desktop Patterns Control Panel. What am I doing wrong?*

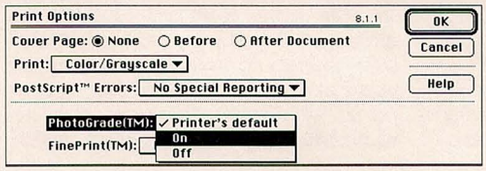
Brian Mather
Exeter, Devon

A You're not doing anything wrong. Among the 64 patterns that come with the Control Panel, Apple never thought to include a plain blank one! The answer is pretty straightforward, when you realise that you can paste any picture into the Control Panel.

Here is what to do. Open a graphics program, or any program with graphic capabilities. Draw a white box with no

DIGITAL DOCS

Applications that perform a similar task to Portable Digital Documents – files you can read on-screen before finally printing – are Adobe Acrobat and Common Ground. Watch for details in MACFORMAT soon.



Buying a printer with PhotoGrade will enable you to print graphics at much better quality.

in fact the default folder for the documents it creates is the PrintMonitor folder. **SMcH**

A grey area

PRINTING

Q *I purchased a LaserWriter IINTR last year with hopes that it was going to be adequate for text and graphic printing alike. However, although text printing has been fast and impressive, the graphic output looks nothing like 300dpi. Is this a limitation of laser printers? Could it be improved by any extra software or hardware?*

J Lei
Glasgow G3

A Well, the IINTR is indeed a 300dpi printer, and it's unlikely that there's a problem with it, especially as you say that text is fine. I think you have discovered the difference between black and white and greyscale. Black and white televisions actually display many shades of grey, whereas black and white printers cannot produce greys. Instead they use arrangements of different amounts of black dots to fool the eye into seeing greys.

Unfortunately, the resolution of the image will appear to decrease. The only way to improve quality is to get either a printer with a physically greater resolution, such as the Apple's Pro 600 (ask your local Apple dealer for details), or get a printer that is capable of running PhotoGrade (such as the Select 300). PhotoGrade is a system that employs a custom ASIC (Application Specific Integrated Circuit) controller. This basically fires the laser at smaller intervals, resulting in a physically smaller dot size, plus RET (Resolution Enhancement Technology), which optimises the image to give maximum screen greys. Scanning at 300dpi won't help, as this resolution won't be retained for the greyscale printout. Scanning at a third of this resolution will at least save lots of hard disk space and a bit of RAM.

FinePrint will smooth 300dpi text printout, as well as black and white line art or scans, but if you're happy with your text already, then PhotoGrade is probably your best option. **SMcH**

Image Sloth

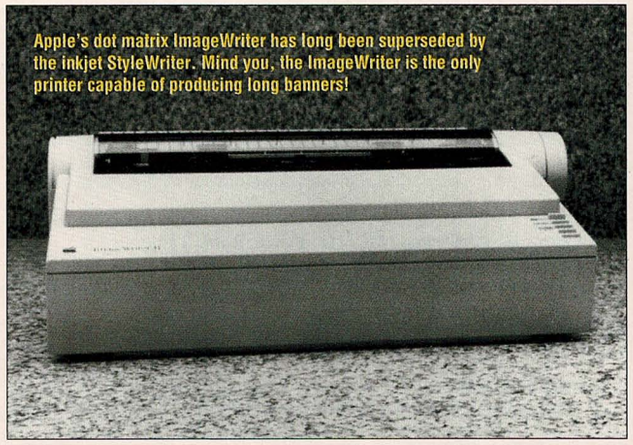
PRINTING

Q *When printing from any of my applications on best setting, my ImageWriter II can take up to 30 minutes to print an A4 sheet full of information. I believe this is because of the limited RAM in my machine. I have only one program running at a time. When printing in normal or draft mode, the printing is very fast. Any advice?*

Garry Booth
Long Eaton, Nottinghamshire

A In draft mode, the ImageWriter II simply prints characters in a fixed font. However, in normal mode it will print in the font you have used in the document, but at a resolution of only 72 x 80dpi. When the printer is working in best mode, it prints a line of image, and then moves the paper up by a fraction of a line and prints it again, giving the effect of a higher resolution. This means that the print head has to make twice as many passes as in normal mode, which takes at least twice as long.

The Mac has to provide the information for the printer to work from. A quicker Mac might produce faster results, and more memory might improve matters, but the problem is that the ImageWriter II just isn't a very fast printer in best mode. All you can do is use the draft and the normal mode for everyday use, and only use best mode for those extra special documents like letters to the bank manager. **JC**



Apple's dot matrix ImageWriter has long been superseded by the inkjet StyleWriter. Mind you, the ImageWriter is the only printer capable of producing long banners!

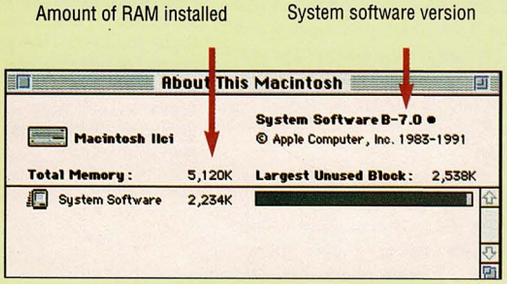
The do-it-yourself problem solving guide...

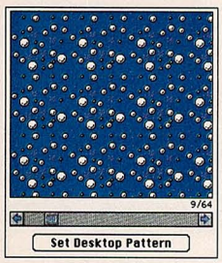
One of the main causes of problems on the Mac is Extensions or Control Panels clashing in the depths of your System Folder. Fortunately, it's easy to check if this is the case. Restart your Mac and hold down the [shift] key. You can let go of the key when you see the message 'Welcome to Macintosh. Extensions off'.

If everything now works, then the problem lies in your System Folder. The only way to work out which item is the culprit is by trial and error. Remove a few Extensions and or Control Panels, then restart your Mac. Keep going until the problem no longer occurs, and you have located the offending software.

If this doesn't work, another common solution is to rebuild your Desktop. Start up your Mac with [command] and [option] held down. You will get a message asking if you want to rebuild the Desktop. Click OK and see if this solves your problem.

If the problem persists then use the form below to ask our experts. We'll need to know a few facts about your Mac, so when you're in the Finder, select About This Macintosh from the Apple Menu. The picture (left) shows what we'll need to know.





Fancy Desktops are easily obtainable with System 7.5. In fact much easier than a plain one!

border. Select **Copy** from the **Edit** menu. Choose the Desktop Patterns Control Panel and select **Paste** from the **Edit** menu. Finally, click on **Set Desktop Pattern**. Easy when you know how. **DS**

Lock it up

CD-ROM

Q I have lots of CD-ROMs and all are working perfectly, but I received a CD-ROM that I couldn't read. Every time I try to open it I get a message on my screen saying: 'The Desktop couldn't be created. Unlock the CD-ROM and try again'.

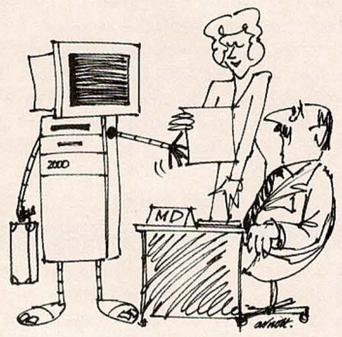
1. How do you unlock a CD-ROM?

2. What has the Desktop got to do with the opening of the CD-ROM? Everything for the CD-ROM player is placed in the System Folder.

Ewa Lagetstrom
Tyreso Sweden

A Every CD-ROM has an invisible Desktop file on it that keeps track of the files and stores their icons. Some CD-ROMs, such as MACFORMAT's cover disc, have two Desktop files, one for System 6 and one for System 7, so that it will work with both Systems.

The thing about CD-ROMs is that the Finder isn't clever enough to know that you can't write to them, so it assumes that you can unlock them. Of course, you can't write to a CD-ROM, so it's effectively locked forever.



'It says "I am the Quadra 2000. And you are fired."'

Your problem seems to be that there's a problem with the CD-ROM's Desktop file. The System needs to rebuild it, but it can't because the disc is locked. It asks you to unlock it because it doesn't know that you can't.

In fact, this problem is quite a common one when a file server is mounted (often you won't have access rights to write any files, including the Desktop). In this case there is a file stored in the File Sharing folder, inside your Preferences folder, for any File Server or indeed CD-ROM. So turning on File Sharing might well solve your problem. Otherwise, you could try reading this CD-ROM under System 6, or get a replacement and hope that the whole batch isn't like this one. **SMcH**

MACANSWERS

If you send in a question for the MACFORMAT experts to solve, please fill in and include this form (or a copy of it). And please make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you.
Send your form and question to:
Mac Answers, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. Or fax it to us on 0225 446019.

Name .....

Address .....

.....

.....

Your Mac
(For example, Performa 200, IIfx, PowerBook 145):

.....

System version
(see About this Macintosh screenshot above): .....

Amount of RAM
(see About this Macintosh screenshot above): .....

Are you using Virtual Memory? .....YES/NO
(This is accessed from the Memory Control Panel under System 7)

Do you have 32-bit addressing turned on? .....YES/NO
(This is accessed from the Memory Control Panel under System 7)

Details of any relevant hardware which could help us to answer your question:

.....

.....

Now, use this space to describe your problem or question. Include as much relevant information as possible. Please continue on a separate sheet if necessary.

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C/M/Y	£6.95ea.	£N/A
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C/M/Y	£17.95	£N/A

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	Comp.	Branded
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Apple ImageWriter - LQ COLOUR	£N/A	£10.95
Citizen Swift 200/240 - BLACK	£2.25	£2.95
Citizen Swift 200/240 - COLOUR	£N/A	£15.95
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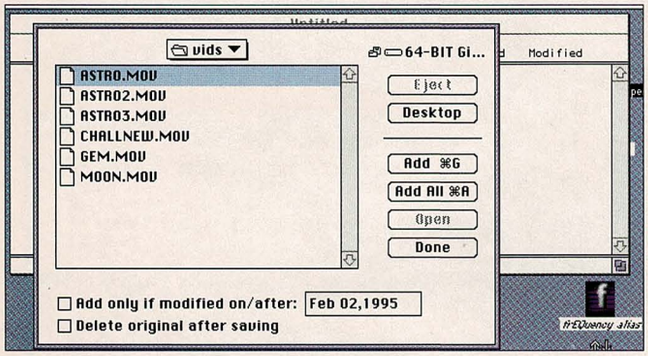
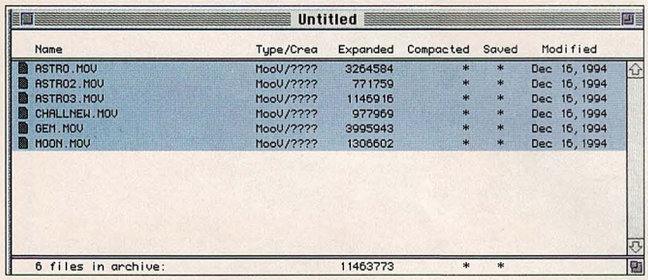
Compress for less

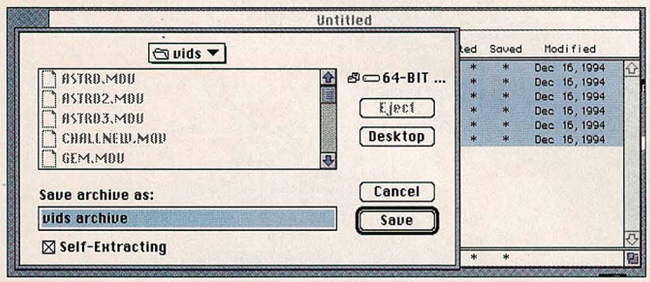
As more and more software packages use more and more of your hard disk, you soon start suffering from lack of storage space. The easiest answer is data compression software...



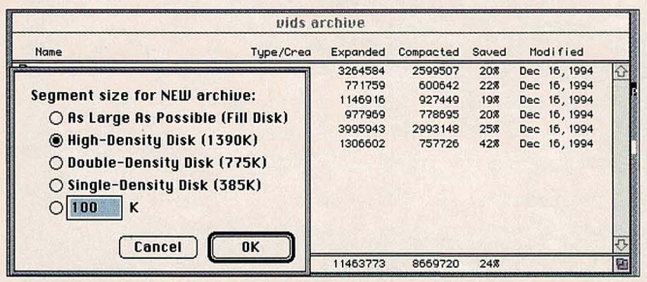
Here we're using *Compact Pro* to compress half a dozen QuickTime movies. Usefully, you can add all the files that will make up the archive with a single click.


Untitled
Name Type/Crea Expanded Compacted Saved Modified
ASTRO.MOV MooV/???? 3264584 * * Dec 16, 1994
ASTRO2.MOV MooV/???? 771759 * * Dec 16, 1994
ASTRO3.MOV MooV/???? 1146916 * * Dec 16, 1994
CHALLNEW.MOV MooV/???? 977969 * * Dec 16, 1994
GEM.MOV MooV/???? 3995943 * * Dec 16, 1994
MOON.MOV MooV/???? 1306602 * * Dec 16, 1994
6 files in archive: 11463773 * *

The files to be compressed are shown in the untitled archive as six files representing nearly 1.5Mb of valuable hard disk space. Save the archive and it will be compressed.



Saving the archive enables you to make it a self-extracting program if you so wish. This means that all you need do to expand the files is double-click on the archive.


vids archive
Name Type/Crea Expanded Compacted Saved Modified
3264584 2599507 20% Dec 16, 1994
771759 600642 22% Dec 16, 1994
1146916 927449 19% Dec 16, 1994
977969 778695 20% Dec 16, 1994
3995943 2993148 25% Dec 16, 1994
1306602 757726 42% Dec 16, 1994
Segment size for NEW archive:
As Large As Possible (Fill Disk)
High-Density Disk (1390K)
Double-Density Disk (775K)
Single-Density Disk (385K)
100 K
Cancel
OK
11463773 8669720 24%

Finally, you can use *Compact Pro's* segmenting feature to divide large archives into bite-sized chunks that will easily fit on floppies. Brilliant for backing up your hard disk.

One of the first laws of computing is that sooner or later you're going to run out of storage space. The expensive solution to this is to buy extra – either in the form of a new hard disk, SyQuest removable drive or optical disk. The smarter, and cheaper, solution is to compress the data on your hard disk so that it takes up less space.

There are basically two kinds of file compression program: those that only compress files when you specifically tell them to, and those that do it all automatically. Of the former, many people's favourite is *Compact Pro*, which is shareware. Examples of the latter include *Disk Doubler Pro*, which is available from Principal Distribution (tel: 01706 832000) and costs £92.83, and *Now Compress*, which is contained within *Now Utilities* (£63.50 from Frontline, tel: 01256 463344). But there's one utility that offers both functions: *StuffIt Deluxe 3.5*, £94 from Principal Distribution (tel: 01706 832000).

Get stuffing: *StuffIt Lite* is on the floppy and the CD-ROM this month

When *StuffIt* first appeared it was a shareware program, but it has since become commercial software. Included in the package is the manual compression program, and another utility that automatically compresses any files that contain a given text string. For example: if you end the filename with 'small', it will be compressed as soon as you name it. *StuffIt* can also be set to compress automatically any files that have been on your hard disk for more than a specified amount of time – so all your old correspondence can be compressed to save space, while remaining easily accessible.

Perhaps the best option to go for is one of the shareware packages. The two best ones for the Mac are *StuffIt Lite*, which you'll find on this month's cover disk, and *Compact Pro;* they cost $25 each and offer the facility to shrink files to as little as 50% of their original size. But their best features are the facility to create self-extracting and split archives.

Self-extracting archives don't need the program they were compressed with in order to be decompressed back to their original size. The recipient can simply double-click on the archive to expand the original files and re-create them in a folder.

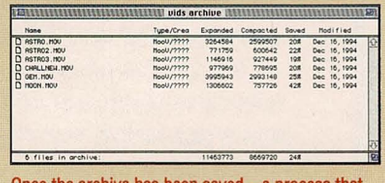
Both *StuffIt* and *Compact Pro* also enable you to add any number of separate files – these can be applications or documents – into a single archive. Once it's created, you can split this archive over several floppies if you wish – handy if you've got large files that won't fit on to a single floppy disk. When you want to decompress these split archives, both programs are smart enough to work out which floppies are required, and will ask you to insert them in the correct order.

So compression utilities are damned handy both for saving hard disk space and for distributing large files on floppy disks. But perhaps the most useful application is to use them to compress files you wish to send to someone over a network or modem: the smaller the file size, the more you save in time and money. **Andy Storer**

Shrinking Files

File compression programs actually shrink files by removing any redundant information and creating what's known as an archive. This is done in such a way that the redundant data can be replaced when the file is needed again. In other words, it is a kind of Macintosh shorthand.

For example, imagine a text file that contained the line 'AAAABBBBCCCC'. A compression program would look at this and stuff it down it into the line '4A4B3C' – which is just over half the size of the original.


vids archive
Name Type/Crea Expanded Compacted Saved Modified
ASTRO.MOV MooV/???? 3264584 2599507 20% Dec 16, 1994
ASTRO2.MOV MooV/???? 771759 600642 22% Dec 16, 1994
ASTRO3.MOV MooV/???? 1146916 927449 19% Dec 16, 1994
CHALLNEW.MOV MooV/???? 977969 778695 20% Dec 16, 1994
GEM.MOV MooV/???? 3995943 2993148 25% Dec 16, 1994
MOON.MOV MooV/???? 1306602 757726 42% Dec 16, 1994
6 files in archive: 11463773 8669720 24%

Once the archive has been saved – a process that may take a long time on slower Macs – you can see just how much compression has taken place. Here it's only 24% – this is because these movies have already been pretty well compressed by QuickTime itself. But with text and picture files, you'll end up with more like a 50% reduction in file size.

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Once upon a time...

Story telling is all about children reading books, right? So what has the Mac and all this newfangled technology got to do with it? Phil Moore looks into story creating multimedia.

And so they all lived happily ever after, apart from the monster who was consumed in a fiery pit. This is instantly recognisable as the end of a story. You can also predict that it probably started, *Once upon a time ...* But how do you know that? The answer lies in the vast number of stories that you've heard, seen or read in your life – whether in a book, on television, at the cinema, or in everyday life.

Stories have a powerful function in everyone's lives – they help you to make sense of what happens to you and to others, they carry morals and lessons, and they also entertain.

That's one reason why, in school, children are encouraged not only to read a whole range of stories, they are also required to write and to tell them. In doing so, they discover the wide range of narrative techniques – the devices that storytellers have developed to keep the reader's attention. These are things like making a story interesting, ensuring that the elements of the story are clear, and making sure the reader doesn't get lost in the plot.

Discover how to create your own comic strips – see page 52

Children also come to understand the needs of an audience, and learn how to tailor what they write and say for a particular audience, whether it's the teacher, an examiner, or a potential employer.

A short history of story

Originally, stories were for listening to. Many of the classics that children now study at school, such as Chaucer's *The Canterbury Tales* and Shakespeare's plays, were performed and not read. The stories they tell not only convey a narrative, with characters and events from the past significant in their culture, they also have messages about morals and ethics.

Then along came Caxton and the first British printing press. It became possible for some people to read books. Stories started to be written down for more general consumption and the first novels started to appear. Authors, like storytellers before them, realised that they had to develop new devices to keep their readers interested. Writers started experimenting with different ways of telling a story for a much wider readership – some of Dickens's novels, for example, started life as an early form of soap opera, printed episode by episode in newspapers and journals.

Cinema and television brought their own ways of telling stories, and directors and screenplay writers developed the art of storytelling even further. And now we have Macs that are capable of handling sound, words and images – giving anyone the potential to use sophisticated techniques of storytelling, which were developed by performers, writers and directors. Although the old chestnut that a story needs a beginning, a middle and an end is still true, we're not surprised if they don't occur in that order.

New ways with stories

Much of the current school curriculum demands that children learn only the

STORYBOOK THEATRE

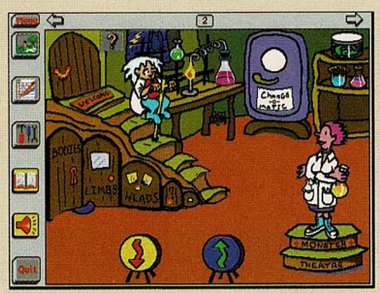
StoryBook Theatre provides three story worlds: 'In My Room', 'Animal Adventures' and 'Wacky Scientists'. Each scene contains animated and non-animated characters and objects, some of which have associated sounds. When you click on an object and hold the mouse button, you can move it around; if it is an animated object, it will move when you release the mouse; if it has a sound, the sound will play.

You can add to these basic scenes in a variety of ways: you can add words to a scene, both in writing and by recording with a microphone. The words you type can be animated either to move or change colour. Alternatively, there are words associated with each scene that you can put where you like – when you highlight the word and press the **[tab]** key, a voice will read the word, and then a picture of the object will appear.

When you've learned how it all works, you can delete all or some of the objects and start your own story. You can add to the scene from the objects, characters and animals provided , and add some spoken narration.

The chief drawback is that it's impossible to work with any other background than the three that are provided. It seems a shame that you can't add a picture created in another program to make it easier to create a more varied story with changes of scene.

But it's a good introduction to some multimedia techniques for storytelling, and the documentation offers really helpful advice to parents and teachers.



Storybook Theatre's Wacky Scientists could certainly tell a story or two!

STORYBOOK THEATRE

Price: £82.20.
Requires: LC or better, 2Mb of RAM with System 6.0.7 or 4Mb of RAM with System 7, and a 256-colour monitor.
For more details contact TAG Developments on 01474 357350.

MACFORMAT RATING 83%

TWO FOR ONE

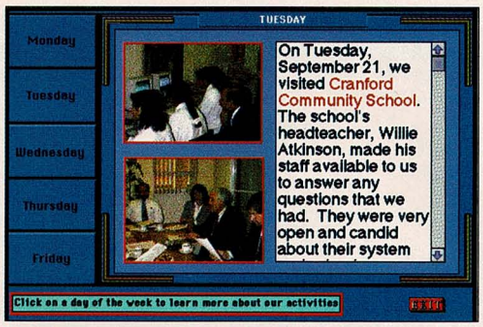
If you buy *Storybook Theatre* from TAG Developments you get *Lost Treasures*, a collection of classic nursery rhymes, for free. *Lost Treasures* usually retails at £46.95. For more details contact TAG Developments on 01474 357350.

Alternatively...

There are many other story creating multimedia programs around. Here are a few more worth a look...

Untitled
They walked all day until they came to a brook. They sat and rested while the monster read the latest issue of MacFormat.
OK
Page 2

Storybook Weaver (see issue 13) offers a library of images, scenes, sounds and screen borders for you to use to construct your story. You can't add your own sounds or images, but it's easy to use. Macademic, tel: 0171 630 6844. Price: £25.67.


TUESDAY
Monday
Tuesday
Wednesday
Thursday
Friday
On Tuesday, September 21, we visited Cranford Community School. The school's headteacher, Willie Atkinson, made his staff available to us to answer any questions that we had. They were very open and candid about their system
Click on a day of the week to learn more about our activities

HyperStudio (see issue 14) is a full multimedia authoring package aimed at schools. You can combine words, sounds and images and link pages in a variety of ways. TAG Developments, tel: 01474 357350. Price: £165 for home use, £99.50 for schools.

Kid Pix2 (see issue 19) is a paint package with the facility to create animations and to save them as QuickTime movies. It contains over 300 templates of people, dinosaurs, etc. Available from Macademic, tel: 0171 630 6844. Price £52.86.

narrative techniques associated with print – even in the latest revision of the National Curriculum for English, the word 'print' is insisted upon. Yet what form of storytelling do children experience outside school? Print, naturally, but in addition they see television, video, computer games, cinema and even theatre, all of which employ a whole range of techniques that print can't handle. Ask a child to explain what happened while playing a computer game and you're likely to get a narrative a long the lines of, 'Well, I had to help these lemmings escape across a lake. First, I turned one into a builder...' and so on.

There are an increasing number of programs that provide ways for young children to experiment with techniques of narrative, which would have required very expensive equipment before the advent of multimedia computers. (*Story-Book Theatre* and *Story Artist Kit* – see the boxes on page 102 and below – are just two of these programs.)

Children could use these programs to write stories – each provides a number of facilities for them to do so. But those facilities could equally well be employed in other areas of school work.

For example, a local study in geography could be turned into a story of a character's journey through the area; a history project about the Second World War could include one person's experience of the Blitz, complete with animations and contemporary images; in a science lesson, the journey of haemoglobin around the body could be treated as an adventure story, with the reader offered choices as to what happens next; and the facility of some programs to manipulate and transform shapes could provide a background to an interesting maths-based story.

In all of these cases, the child will be demonstrating an understanding of the subject-based content of the narrative – and will probably find that doing so can be more entertaining and challenging than writing an essay.

Of course, books will be with us for the foreseeable future and will continue to be significant in all our lives, and it is important that children do learn how to write narrative. But it does seem a shame not to let children's creativity loose in multimedia as well. With a Mac and lots of your encouragement, they've got a great head start. **MF**

COMPETITION

Radius UK has launched a competition that invites you to submit ideas for multimedia productions, along with a storyboard outlining the structure of the presentation. Details from Claire Woodcock, Interactive Multimedia Competition, Radius UK Ltd., 13 Westminster Court, Hipley Street, Old Woking GU22 9LQ.

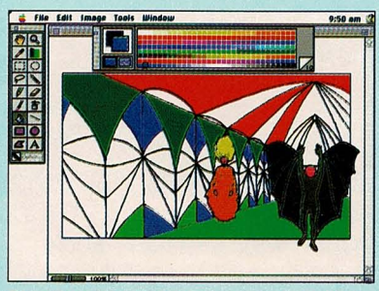
STORY ARTIST KIT

Children often imagine stories pictorially in their heads. To develop that process, this program enables them to draw stories. Essentially, it is a paint program with some black-and-white line drawings that kids can use to create their scenes.

There are three scenarios to choose from: Arabian Nights, Transylvania and Ancient Egypt. Each subject contains appropriate backgrounds, characters, and a font. Arabian Nights has a font similar to Disney's *Aladdin;* there's a blood-dripping font for Transylvania; but one of the highlights of this package is the hieroglyphic font for Ancient Egypt. An accompanying booklet gives plenty of details about hieroglyphics, which could itself be turned into an interesting lesson.

To use the program, you open up a background scene, add your characters, type in any text you want, then colour the whole thing in. It's all very basic stuff and rather clunky. For instance, to add a character, you have to open it, select it with a lasso tool, then copy and paste it onto your background. There's no import or place function, and once it's positioned, you cannot move a character later.

The clip art is very average, but the paint program is extremely good and can be used as a stand-alone application. If you already have a paint program then all you really get for your money is the clip art and fonts, and it's probably not worth it. But if you don't have a paint program, the whole package becomes a much better buy!



Story Artist Kit is an ideal way to get child to think about, and discuss, stories and plot-lines.

STORY ARTIST KIT

Price: $39 inc p&p.
Requires: Classic II or better, 2Mb of free RAM, System 6.0.3 or later and 4Mb of free hard disk space.
For more details contact Mountain Lake Software on 001 415 752 6515.

MACFORMAT RATING **70%**

COMPETITION

The National Council for Educational Technology runs the National Educational Multimedia Awards (NEMA) scheme, which awards annual prizes for innovative use of multimedia technology in teaching and learning. Full details are available from NCET, tel: 01203 416994.

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Credit where credit's due

Spot loan sharks and pin down exponentially growing interest payments with your spreadsheet. Andy Storer tells you how to do the figures and keep the bank manager at bay.

Sooner or later, you'll probably have to borrow money – anything from a tenner on a credit card to a 25-year mortgage with a building society. And with so many companies offering you all kinds of deals left, right and centre, the varied costs involved in borrowing present a minefield of choices. But if you have a spreadsheet package for your Mac, you're already halfway to taking control of the situation.

A spreadsheet package gives you a means of working out which offers are the most attractive. It also enables you to monitor how interest is being calculated on any existing loans you may have. And once you've designed a spreadsheet to handle both needs, it's readily available whenever you need it, saving you the hassle of working out all those infernal formulas by hand every time.

Setting up such a spreadsheet is pretty straightforward. And you won't have to break the bank to find one to do the job; there are only a few formulas involved, so you can easily get by with a shareware spreadsheet. So, although we're using *Microsoft Excel* for the purposes of this article, you don't need all its components, just the formulas. The principles remain the same, although you may have to consult your manual for the particular phraseology your package requires.

There are only a few formulas involved, so you can easily get by with a shareware spreadsheet.

In the following walk-through we'll be showing you how to set up a spreadsheet to understand how fixed rate and variable rate loans work. The most common examples of these are personal loans and mortgages respectively.

But before you begin tapping in the equations, make sure you have your package set to calculate automatically, unless you have limited memory. In this case, turn off auto-calculate while you're designing the sheet and turn it on only when you want to check the results. It may also be handy to combine the spreadsheets you're going to be constructing here with the bank account and money planner sheets we looked at in MACFORMAT 21. This is particularly useful if you wish to see what difference the repayments on a loan will make to your monthly outgoings and overall financial situation. For instance, it could help you decide whether to take out a loan for two years rather than three years, and thus

PAYING TOO SOON

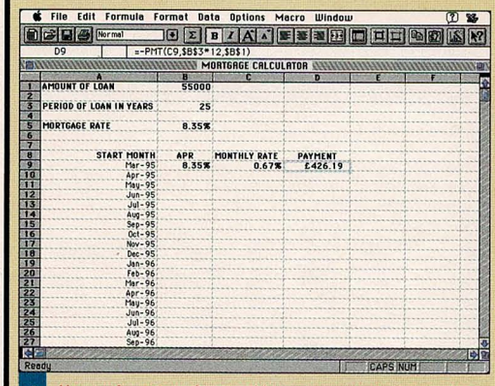
If you suddenly come into some money, you might think: 'Hey, I'll pay off my loan...' Beware. With many loans you have to pay back the amount you would have paid if the loan had run to its normal duration. So you save nothing on interest payments. Find out about this before you take out the loan.

Continued on next page

VARIABLE RATE LOANS

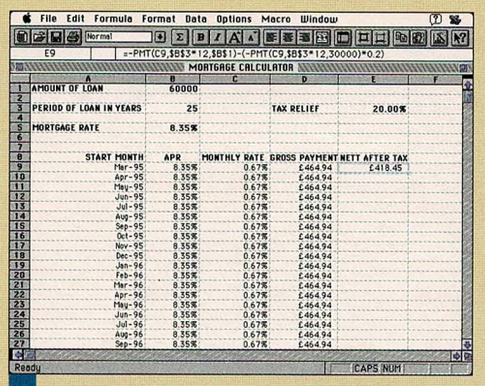
Mortgages are the best example of variable rate loans. Of course, you can choose from a variety of different kinds. You might want a low-start mortgage, with a variable rate floating some 2% below standard mortgage rate for the first few years, or you might want a fixed rate mortgage, fixed for a few years before the loan resorts to the standard rate. Both these kinds are easily adaptable to the spreadsheet shown here.

It's also easy to adapt this sheet to Endowment or Interest-Only mortgages, where only the interest on the loan is calculated. What complicates the picture is the variable rate of interest and fluctuating tax relief. On this repayment mortgage calculator, we've assumed tax relief to be 20% on the first £30,000 of the loan. This may change in the next budget. And you only get tax relief on your first mortgage...



	A	B	C	D	E	F
1	AMOUNT OF LOAN	55000				
2						
3	PERIOD OF LOAN IN YEARS	25				
4						
5	MORTGAGE RATE	8.35%				
6						
7						
8	START MONTH	APR	MONTHLY RATE	PAYMENT		
9	Mar-95	8.35%	0.67%	£426.19		
10	Apr-95					
11	May-95					
12	Jun-95					
13	Jul-95					
14	Aug-95					
15	Sep-95					
16	Oct-95					
17	Nov-95					
18	Dec-95					
19	Jan-96					
20	Feb-96					
21	Mar-96					
22	Apr-96					
23	May-96					
24	Jun-96					
25	Jul-96					
26	Aug-96					
27	Sep-96					

1 Here we've set up the monthly repayment calculator using the same PMT function as in the fixed rate spreadsheet. But this time we've made the monthly rate of interest refer to the cell C9. This ensures that any changes on a monthly basis in the APR (that is, the mortgage rate in this case) are taken into account.



	A	B	C	D	E	F
1	AMOUNT OF LOAN	60000				
2						
3	PERIOD OF LOAN IN YEARS	25		TAX RELIEF	20.00%	
4						
5	MORTGAGE RATE	8.35%				
6						
7						
8	START MONTH	APR	MONTHLY RATE	GROSS PAYMENT	NETT AFTER TAX	
9	Mar-95	8.35%	0.67%	£464.94	£418.45	
10	Apr-95	8.35%	0.67%	£464.94		
11	May-95	8.35%	0.67%	£464.94		
12	Jun-95	8.35%	0.67%	£464.94		
13	Jul-95	8.35%	0.67%	£464.94		
14	Aug-95	8.35%	0.67%	£464.94		
15	Sep-95	8.35%	0.67%	£464.94		
16	Oct-95	8.35%	0.67%	£464.94		
17	Nov-95	8.35%	0.67%	£464.94		
18	Dec-95	8.35%	0.67%	£464.94		
19	Jan-96	8.35%	0.67%	£464.94		
20	Feb-96	8.35%	0.67%	£464.94		
21	Mar-96	8.35%	0.67%	£464.94		
22	Apr-96	8.35%	0.67%	£464.94		
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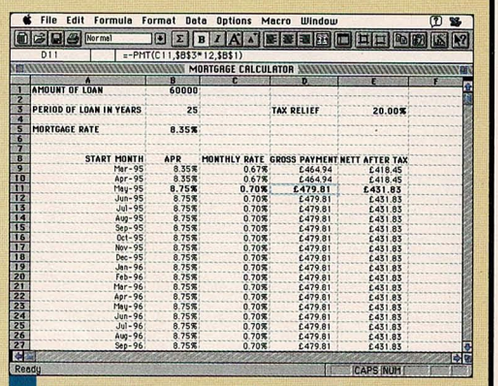
25	Jul-96	8.35%	0.67%	£464.94		
26	Aug-96	8.35%	0.67%	£464.94		
27	Sep-96	8.35%	0.67%	£464.94		

2 This complicated looking equation takes the gross monthly payment required and subtracts the amount which the Government (grudgingly) offers you in tax relief. The net monthly payment is the result, and this can be copied and pasted down column E to find out the required sum each month.



	A	B	C	D	E	F
1	AMOUNT OF LOAN	60000				
2						
3	PERIOD OF LOAN IN YEARS	25		TAX RELIEF	20.00%	
4						
5	MORTGAGE RATE	8.35%				
6						
7						
8	START MONTH	APR	MONTHLY RATE	GROSS PAYMENT	NETT AFTER TAX	
9	Mar-95	8.35%	0.67%	£464.94	£418.45	
10	Apr-95	8.35%	0.67%	£464.94	£418.45	
11	May-95	8.75%	0.70%	£479.81	£431.83	
12	Jun-95	8.75%	0.70%	£479.81	£431.83	
13	Jul-95	8.75%	0.70%	£479.81	£431.83	
14	Aug-95	8.75%	0.70%	£479.81	£431.83	
15	Sep-95	8.75%	0.70%	£479.81	£431.83	
16	Oct-95	8.75%	0.70%	£479.81	£431.83	
17	Nov-95	8.75%	0.70%	£479.81	£431.83	
18	Dec-95	8.75%	0.70%	£479.81	£431.83	
19	Jan-96	8.75%	0.70%	£479.81	£431.83	
20	Feb-96	8.75%	0.70%	£479.81	£431.83	
21	Mar-96	8.75%	0.70%	£479.81	£431.83	
22	Apr-96	8.75%	0.70%	£479.81	£431.83	
23	May-96	8.75%	0.70%	£479.81	£431.83	
24	Jun-96	8.75%	0.70%	£479.81	£431.83	
25	Jul-96	8.75%	0.70%	£479.81	£431.83	
26	Aug-96	8.75%	0.70%	£479.81	£431.83	
27	Sep-96	8.75%	0.70%	£479.81	£431.83	

3 We've used the gross monthly payment to refer to effective monthly rate (which refers to the APR in B), so any change in the APR updates the figures in each column. This works as we haven't used absolute reference symbols ($) to specify a fixed cell. The cells in C, D, and E refer to the interest rate in B.

save some money on interest payments.

The way to combine the sheets is to form links between the relevant cells residing in them. Such links are automatically updated between sheets whenever they are opened, and they're easy to set up. All you need do is open several documents, select a cell in one of them, enter an equals sign, flick to the other cell you want to link, and click in that. Returning to the first document you'll notice the cell contains a reference to the linked spreadsheet. That's all there is to it.

But back to the nitty gritty of borrowing money. The main thing to get to grips with here is the notion of compound interest, which has entered common parlance as the dreaded Annual Percentage Rate (APR). This is the rate at which your borrowed money grows over time, as the interest the loan accrues is added back onto the initial sum. So if you borrow £1,000 over ten years, you'll end up paying a great deal more than if you'd taken the same loan over only five years.

While APR rates are often quoted as annual rates, you may well find monthly APR rates instead. So a loan being offered at an APR of 22.9% will usually be advertised as 'interest is charged at the rate of 1.73% per month, which gives an effective APR of 22.9%.' Regrettably, you can't just divide the annual rate by 12 to arrive at the monthly rate of compound interest. It's these 'small print' details that take the formulas required beyond the grasp of everyone except the most experienced calculator puncher.

The main thing to get to grips with is compound interest, commonly known as the dreaded APR.

Fortunately, most spreadsheet packages include the necessary formulas as standard. The key function involved here is PMT, which uses three arguments (no jokes intended, girls!) to work out the monthly payments on a loan. These are: the monthly interest rate, the number of payments required, and the initial amount of the loan. But if we're taking out a loan which only quotes an APR rate, and not its monthly equivalent, we'll need to work this out before we can utilise the PMT function.

The precise formula for converting an APR interest rate to its monthly equivalent is '(1+x)^(1/12)-1' where x is the quoted APR rate. The best way to use this is to enter the APR as a percentage in one cell, making sure it displays as a percentage and not a number, and then use the cell's reference (cell A3 or B4 or whatever) as x. Then in an empty cell, enter the whole of the above formula (use the cell reference for x). Then all you have to do is make sure this cell is also set to display the result as a percentage and not as a whole number. And now we've got this little niggle out of the way, we're ready to start our walk-through. **MF**

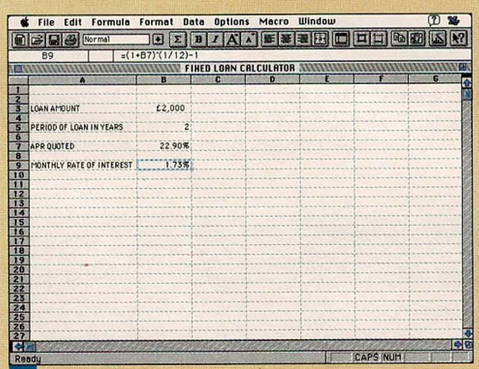
ALTERNATIVES

ClarisWorks and other 'works' packages have spreadsheet modules, but *Microsoft Excel* is the only dedicated spreadsheet package available for the Mac. It costs around £265 for version 5.0 (contact MacLine on 0181 401 1111). *BiPlane*, a shareware alternative, costs next to nothing. See page 109 for details of how to get hold of shareware.

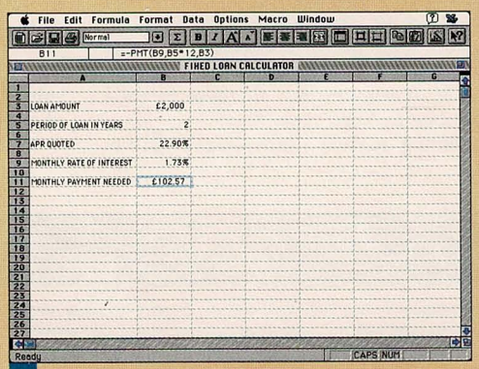
FIXED RATE LOANS

Personal loans are offered in many varieties. The 'secured' kind are cheaper, because they are usually secured against any property you may own. But with some companies a single default could result in you losing your house! Loans which aren't secured are more risky for the loan company (but not for you!), so they are inevitably more expensive. Whatever type you opt for, the principles are the same...

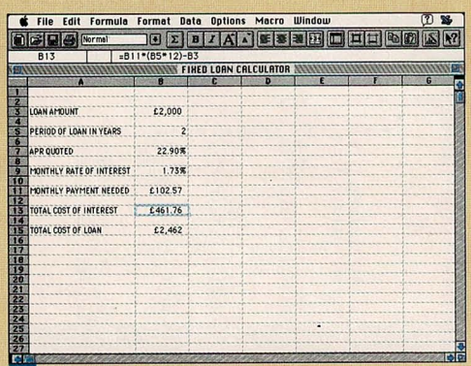
When you sign the agreement, you are responsible for paying the agreed sum loaned plus the compound interest it will accrue over the period of the loan. This combined sum is then divided into equal monthly parts. If the interest on a loan is calculated on a monthly basis, however – as with an overdraft from the bank – you need to find out the effective monthly rate.



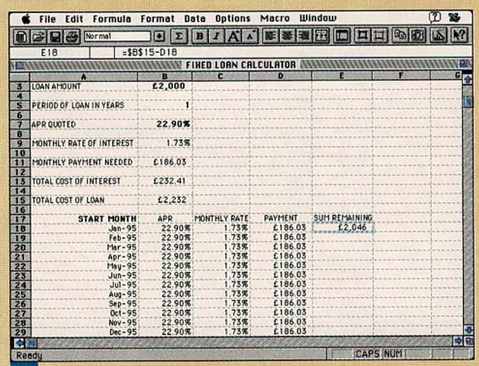
1 The formula entered in cell B9 is used to calculate the effective monthly rate of interest from the quoted APR. Since it refers to the figure entered in cell B7, any changes in that cell will automatically update in B9.



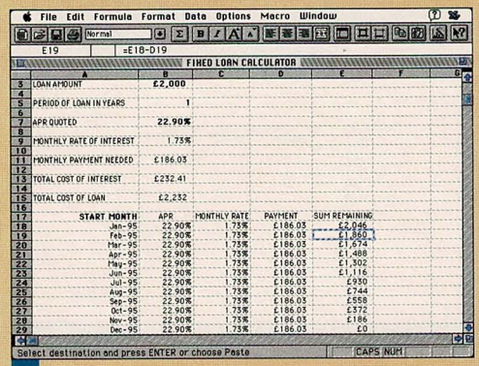
2 Here we've entered the PMT function. This calculates the amount to be repaid each month, given the monthly interest rate, the number of payments and the amount of the loan. (We've added a minus sign as PMT defaults to a negative.)


File Edit Formula Format Data Options Macro Window
B13 =B11*(B5*12)-B3
FIXED LOAN CALCULATOR
LOAN AMOUNT £2,000
PERIOD OF LOAN IN YEARS 2
APR QUOTED 22.90%
MONTHLY RATE OF INTEREST 1.73%
MONTHLY PAYMENT NEEDED £102.57
TOTAL COST OF INTEREST £461.76
TOTAL COST OF LOAN £2,462

3 It's now easy to add formulas to work out the total cost of interest and the final sum that you'll pay. This helps to determine the length of time you'd like to take out the loan for. (These figures update if those in B3, B5 or B7 are altered.)

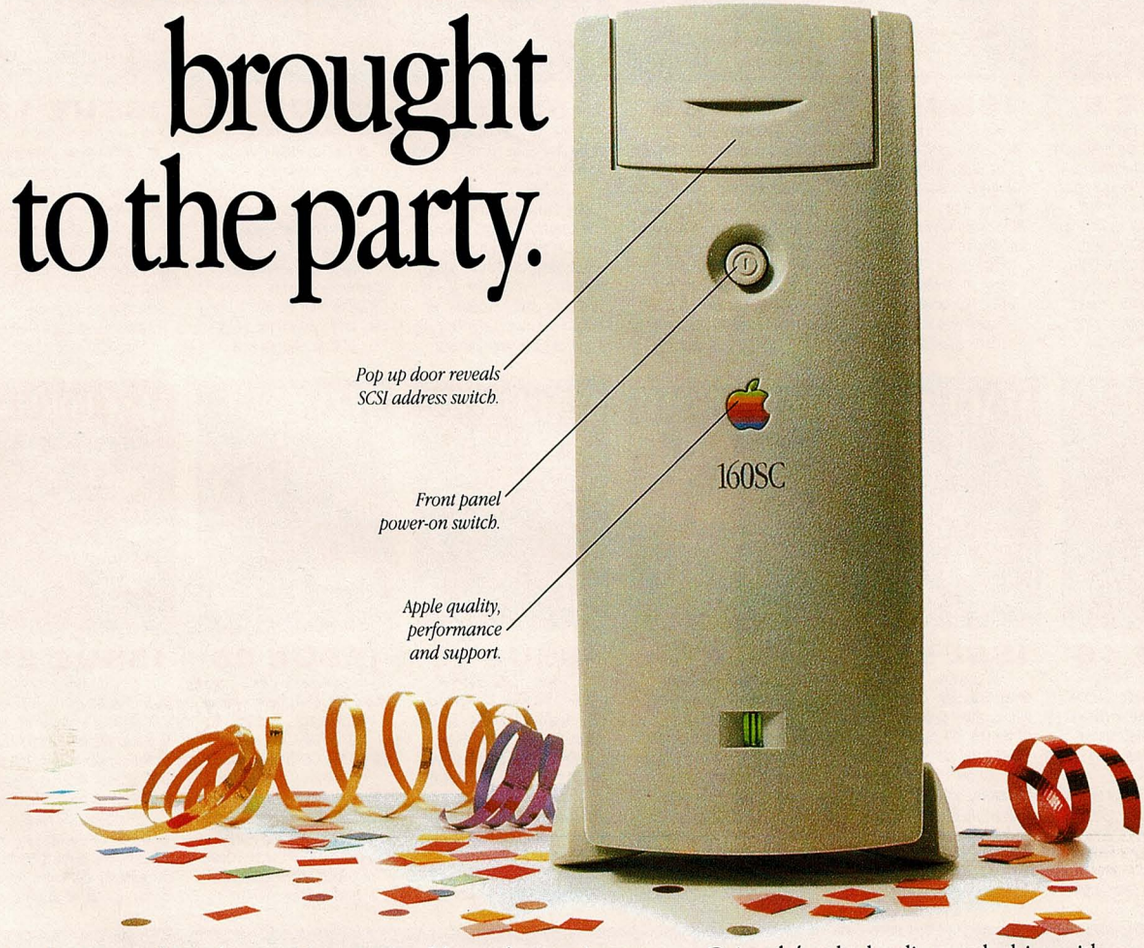

File Edit Formula Format Data Options Macro Window
E18 =B15-D18
FIXED LOAN CALCULATOR
LOAN AMOUNT £2,000
PERIOD OF LOAN IN YEARS 1
APR QUOTED 22.90%
MONTHLY RATE OF INTEREST 1.73%
MONTHLY PAYMENT NEEDED £186.03
TOTAL COST OF INTEREST £232.41
TOTAL COST OF LOAN £2,232
START MONTH APR MONTHLY RATE PAYMENT SUM REMAINING
Jan-95 22.90% 1.73% £186.03 £2,046
Feb-95 22.90% 1.73% £186.03
Mar-95 22.90% 1.73% £186.03
Apr-95 22.90% 1.73% £186.03
May-95 22.90% 1.73% £186.03
Jun-95 22.90% 1.73% £186.03
Jul-95 22.90% 1.73% £186.03
Aug-95 22.90% 1.73% £186.03
Sep-95 22.90% 1.73% £186.03
Oct-95 22.90% 1.73% £186.03
Nov-95 22.90% 1.73% £186.03
Dec-95 22.90% 1.73% £186.03
Ready
CAPS NUM

4 Having established the total amount of repayment called for by the formula in cell B15, it's a fairly simple job to enter a formula to calculate the amount of borrowed money left outstanding in any particular month.


File Edit Formula Format Data Options Macro Window
E19 =E18-D19
FIXED LOAN CALCULATOR
LOAN AMOUNT £2,000
PERIOD OF LOAN IN YEARS 1
APR QUOTED 22.90%
MONTHLY RATE OF INTEREST 1.73%
MONTHLY PAYMENT NEEDED £186.03
TOTAL COST OF INTEREST £232.41
TOTAL COST OF LOAN £2,232
START MONTH APR MONTHLY RATE PAYMENT SUM REMAINING
Jan-95 22.90% 1.73% £186.03 £2,046
Feb-95 22.90% 1.73% £186.03 £1,860
Mar-95 22.90% 1.73% £186.03 £1,674
Apr-95 22.90% 1.73% £186.03 £1,488
May-95 22.90% 1.73% £186.03 £1,302
Jun-95 22.90% 1.73% £186.03 £1,116
Jul-95 22.90% 1.73% £186.03 £930
Aug-95 22.90% 1.73% £186.03 £744
Sep-95 22.90% 1.73% £186.03 £558
Oct-95 22.90% 1.73% £186.03 £372
Nov-95 22.90% 1.73% £186.03 £186
Dec-95 22.90% 1.73% £186.03 £0
Select destination and press ENTER or choose Paste
CAPS NUM

5 By subtracting the monthly payment from the current balance you can work out whether you could afford to pay off the outstanding amount in one lump sum and so qualify for a discount on additional interest. (But see p105's margin note.)

Before you consider a third party external drive, look at what we've brought to the party.



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Apple External Hard Drives are bundled with everything you need to begin safely storing your data right away, including a power cable, a SCSI cable, and a terminator. Convenient front-panel SCSI ID and power controls make it easy to power up and change your SCSI address – whether you set the drive up vertically or horizontally.

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Look for the Apple Drive at your local dealer soon.

Now you can safely store your work outside your Mac without leaving the Apple family.

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ISSUE 5
October 1993

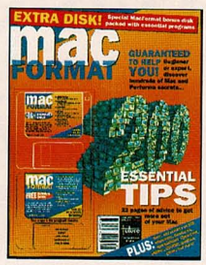
■ **On the disk:** *Do It All!; PopChar; Greg's Buttons; Pathways Into Darkness; Fast Unfrag; Safety Belt*

■ **Inside:** Computing on the move; PowerCD on test; Photo CD software; 50 *QuarkXPress* tips; PowerBook buyer's guide; mastering Zapf Dingbats; plus how to design posters

ISSUE 6
November 1993

■ **On the disk:** demo of *Civilization; Eclipse; Tetris 2000; Startup Downloader;* Marker fonts; *The Grouch*

■ **Inside:** How to choose and use a scanner – from hand helds to flatbeds; *Morph 2; AutoRoute Express* and C.A.T reviewed; 50 *PageMaker* tips; plus *Claris Brushstrokes*



ISSUE 8
January 1994

■ **On the disks:** *NIH Image; Graphic Converter; Maelstrom; Mariner; AutoRoute* demo; *Helium; Mount Alias*

■ **Inside:** Loads of Mac and Performa secrets revealed – 200 top tips in all; Adobe *Dimensions* reviewed; review of *WordPerfect 3.0;* Mac survival kit; plus how to design covers

ISSUE 9
February 1994

■ **On the disk:** *SimCity 2000 demo; Greg's Browser; Bobzilla* XTension; *QuarkXPress 3.2* patcher

■ **Inside:** Bumper games guide: *SimCity 2000, Populous, Myst* and more; *FreeHand 4* reviewed; tips for keeping your Mac safe; *Interactive Lover's Guide;* plus language tuition software

ISSUE 10
March 1994

■ **On the disk:** Over 30 indispensable True Type fonts; *Apollo* and *Disinfectant 3.3; ShutDownFade*

■ **Inside:** Integrated packages head-to-head; tips and tricks on graphics; *Creative Writer* review; *FA/18 Strike Hornet* review; Editing for DTP; plus Canon BJC-600 printer on test

ISSUE 13
June 1994

■ **On the disk:** *Syndicate* demo; *Disinfectant 3.41; IconBOSS; Shadow*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** How to double your RAM and disk space – without buying extra hardware; *Print Shop Deluxe; ColorStation;* Fargo Primera printer

ISSUE 15
August 1994

■ **On the disk:** *GrayStation; Vistapro* demo; *Quill*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** art on the Mac, including reviews of *Dabbler, Fine Artist* – and the Wacom, CalComp and Summagraphics tablets; reviews of *Vistapro* and *ClarisWorks 2.1*

ISSUE 16
September 1994

■ **On the disk:** *ColorStation 2* and *HomePublisher* demos

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** our guide to weird Mac software; plus reviews of *Multimedia Workshop, HomePublisher* and *Return to Zork;* plus a foreign correspondent's Mac story

ISSUE 17
October 1994

■ **On the disk:** *Crunch 2.0* and *Conflict Catcher* demo

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** discover how to future-proof your Mac with our top add-ons; reviews of *Sensory Overload, Wrath of the Gods* and *WordPerfect 3;* plus *Ritz Payroll*

ISSUE 18
November 1994

■ **On the disks:** Internet software bundle; troubleshooting utilities

■ **On the CD-ROM:** *ClarisWorks 2.1; Rebel Assault* and *Sensory Overload* demos; 200Mb of utilities

■ **Inside:** How to beat those startup problems; plus *Norton Utilities 3* vs *MacTools 3;* plus review of *ThemePark*

ISSUE 19
December 1994

■ **On the disk:** Hot action with *Wolfenstein 3D; Kid Pix*

■ **On the CD-ROM:** Games galore – 40 demos; *Now Utilities 5.0; Links Pro* demo; plus loads more

■ **Inside:** The lowdown on accelerators; the 20 top Mac games; SCSI troubleshooting; *IntelliTalk;* plus Internet books reviewed

ISSUE 20
January 1995

■ **On the disk:** Build worlds with *Fractal 1.2; Maniac 2.1.1; RAMDisk+ 3.23*

■ **On the CD-ROM:** Demos of *Painter 3.0, PowerMonger; Vistapro; Confluence* and *Four Paws of Crab*

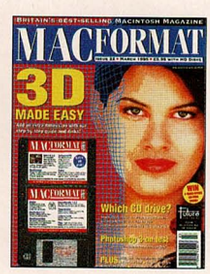
■ **Inside:** Virtual reality special: *KPT Bryce* and *Star Trek Tech Manual; Word 6* versus *Nisus Writer*

ISSUE 21
February 1995

■ **On the disks:** *VideoShop 2.0;* plus 3Mb of games and utilities; *Trojka; WordSmith*

■ **On the CD-ROM:** Demos of *Premiere 4.0, Marathon, Ghosts,* and *Star Trek: TNG, Technical Manual*

■ **Inside:** Video editing on Macs: how to do it; plus budget games; and what to buy if you run out of disk space



ISSUE 22
March 1995

■ **On the disks:** *Infini-D* demo; *MacConcept; Blobbo*

■ **On the CD-ROM:** 3D spectacular; *The Crystal Rainforest; VideoFusion*

■ **Inside:** How to create 3D images on your Mac; *Photoshop 3.0* reviewed; font problems solved; CD-ROM drives tested; and the most realistic flight sim ever

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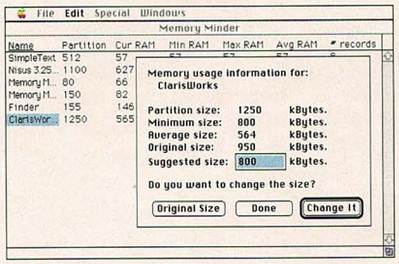
Our covermounted CD-ROM contains all the shareware on these pages



Memory Minder sneaks around in the background and keeps tabs on how much memory each of your applications is using. KGB, Macintosh style.

Forget your wet suit: surf the Internet without even getting your little toe wet with Derek Smith's guide to what raunchy little programs are out there in shareware land.

The best and the most bizarre of the month's shareware is all here... including *MenStat*, the first program I've come across that carries a disclaimer if the user happens to get pregnant as a result of using the program. Seriously. Also, this month is a special edition for Trekkies...

Memory Minder 1.2

UTILITY

Shareware $15

Computer memory can be a slightly confusing thing. Many people get confused between hard disk space and RAM. Which is completely understandable, bearing in mind that some idiot decided to measure both RAM and hard disk space in megabytes.

Why couldn't RAM be measured in something more practical, such as hegabytes (high-end graphics applications)? Amounts would vary from 'can't open one' (4Mb), 'can open one but it crashes' (8Mb), and 'can open one but can't do much' (16Mb), up to 'works fine until next version' (32Mb).

Programs have to be allocated a certain amount of RAM, which they hijack when they're opened. You set this by clicking once on the application icon and selecting **Get Info** from the **File** menu. But how much RAM should you allocate? Programs come with a suggestion, but it's a bit like an employer asking a staff member how much pay he would like: answers tend to be on the generous side. *Memory Minder* monitors how applications use their memory and suggests whether they need more or whether they are being a hog.

I'm not entirely sure whether this is any more reliable than trial and error, but it helps to shed some light on the dark art of memory.

Alphabet Pro v1.11

EDUCATION

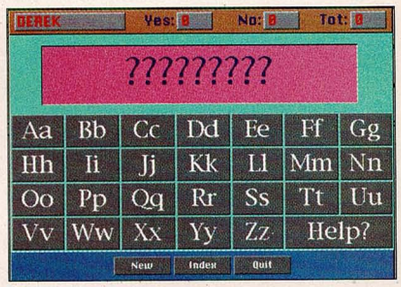
Shareware $15

If you suggested to a responsible parent that they might like to use a Mac to teach their child pronunciation, chances are that they would think you were a little bit on the strange side. Parents would probably be more inclined to procure the services of Ossie Ardiles.

Apple's own *MacInTalk* software has improved the Mac's ability to speak, but if an orphan baby were to be brought up in a jungle by a group of savage Macs, it would end up talking like Robby the Robot; unfortunately, *MacInTalk* still doesn't sound human.

The answer is to use real, recorded voices. Great, so now parents buy the latest software and we end up with a generation of children sporting American accents who insist on saying 'Have a nice day'. *Alphabet Pro* (along with a couple of its sister programs) gets around this problem by enabling you to record your own voice.

For each letter of the alphabet, you use a microphone, which you plug in to the sound port at the back of your Mac, to record your own pronunciation. You can also enter as many whole words as you like, and record how they should be spoken. Your children will now sound just like you. Ideal for those who want to say 'pro-nun-ciation' instead of 'pro-noun-ciation'.



Alphabet Pro can teach you correct pronunciation. So let's hope Americans will learn to pronounce Z. Come on, it's not that tricky!

Brailler

BRAILLE TYPER

Freeware

We've had several complaints lately that MACFORMAT doesn't cater for the disabled – so here's a program just for the blind. Let's hope someone tells them.

Brailler enables you to type Braille symbols on screen. It has two modes: you can type normally on the QWERTY keyboard; or you can simulate using a Braille typewriter, which only has six keys.

There's plenty of on-line help and the program includes a special Braille font. This means that blind people can print their work out... It was at this point that I began to realise that I had the wrong end of the white stick. This program isn't

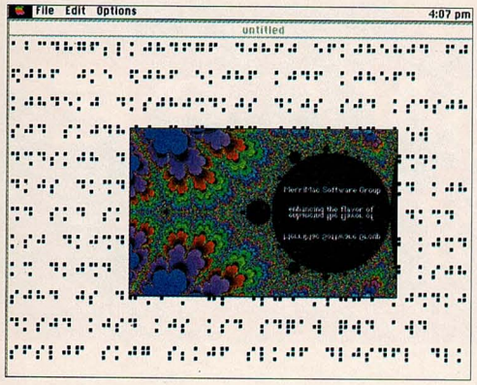
Continued on next page

CONFUSED ABOUT SHAREWARE?

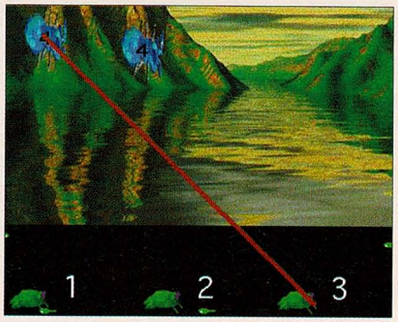
■ **Shareware** is a form of 'try before you buy' software selling and it's a great idea so long as you're honest. When you get some shareware, the documentation file accompanying it will tell you how much it costs – typically it's somewhere between US$5 and $40 – and where to send your money. If you like the software and decide to keep it, then you're morally obliged to cough up. Not only do you get the satisfaction of boasting to friends about how honest you are, but the author will often give you something in return, like a printed manual, or updates when released. The most common problem is sending money abroad, but as many shareware authors now accept credit cards, it's getting easier.

■ **Freeware** means that you don't have to pay for it at all. There are many derivations such as **postcardware**, which means you have to send a pretty postcard to the author.

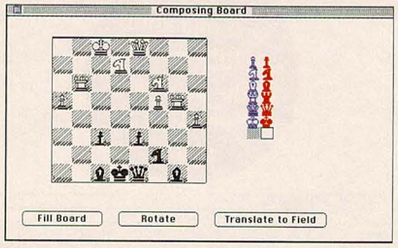
But freeware is not strictly the same as **Public Domain** (PD) because although you don't pay for freeware, the author keeps copyright and you have to follow his terms and conditions to use the program. This often means keeping all the files together and not using or selling them for profit.



Brailler enables blind people to write on their Macs. No sign yet of a WYTIWYG font menu, though.



Not exactly ribbiting. Although, with a tongue that long he'd be great at... er... something.



ChessEdit enables you to design your own chess boards. Ideal for playing chess by post, a game that makes test cricket look frantically fast

TREK FACT
After the pilot episode for the original TV series of *Star Trek* flopped, the NBC network commissioned a second pilot – the first time this had ever been done.

for the blind at all; it's for the sighted who want to learn about Braille.

The program's audience may be very small, but it's well put together, informative, and free. So if you want to learn Braille, then this is a must. Wouldn't a Braille printer for the Mac be brilliant?

Bullfrog Maths & Chemistry

EDUCATION

Shareware $20

There are two categories of games in this series, which is designed to teach maths and chemistry. All the games use the same engine. You get up to four frogs sat at the bottom of the screen, with bugs swimming across the screen above. Using the mouse, you drag one of the frog's tongues across the screen. The idea is to grab and eat the correct bug. For instance, a bug may have 8 x 12 written on it, so you have to get the frog with 96 written on it to eat the bug. Exciting or what?

Actually, it's rather dull and extremely repetitive. I mean, once you've eaten one bug you've eaten them all. Kids may be entertained for a few minutes, but not long enough to warrant paying for this.

Probably the most interesting thing about the game is the background, which was created using *KPT Bryce*. I knew there was a good use for that program!

ChessEdit 0.95

CHESS UTILITY

Freeware

This is an early test version of the program and has a few bugs, but for those people who find themselves designing chess boards, this is invaluable. You may have seen chess problems in magazines with questions like, 'How can Karpov, playing white, win in three moves?' The only answer I can ever find to these puzzles involves him cheating or thumping his opponent.

Now at least you can design your own boards and create your own puzzles. Once completed, the boards can be imported to a word processor or DTP package. For good quality printouts, you'll need to buy the author's chess font, but he includes the bitmap version of it with *ChessEdit*, so you can get started.

Obviously this will find a greater audience among men, as chess is less popular with women. There's been a great amount of scientific research but nobody seems to know why. Perhaps it has something to do with them having better things to do with their lives.

DeskMates 1.3.3

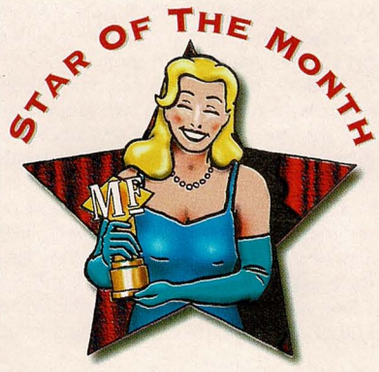
ORGANISER

Shareware $20

DeskMates is a single program, but comprises many different utilities in Swiss-Army-knife style. The first thing it has is a clock, which can display the time in 100 different countries in 24-bits (millions of colours). Slight overkill, I think.

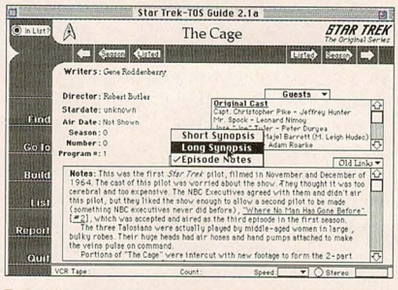
There's a notebook, which offers no

TREK FACT
Many of Dr McCoy's early medical instruments were made from converted salt shakers.



TREK FACT
In the episode 'Miri', two of the young extras were played by William Shatner's daughters.

Several *Star Trek* items have appeared on the Internet over the last month, prompted by the popular release of the seventh *Star Trek* movie, *Generations*, where we see good old Captain Kirk acting side by side with the charismatic Captain Picard. In the film's climactic sequence, William Shatner's rather sexy wig is blown off in an explosion and lands on Patrick Stewart's head, and so the torch is passed on to the new generation.



To boldly go in a non sexually discriminating way where no one has gone before. Hoorah for Star Trek!

Star Trek Guides

HYPERCARD STACKS

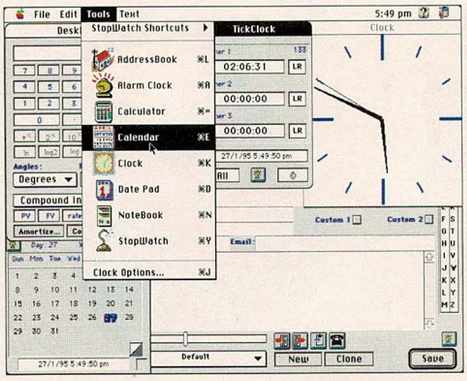
Freeware

Now, admittedly my opinion of these stacks may be slightly affected by my overwhelming love of the *Star Trek* series... The three stacks cover every episode of *The Next Generation*, *Deep Space Nine*, and the original series (which is referred to as *TOS*. Hmm...).

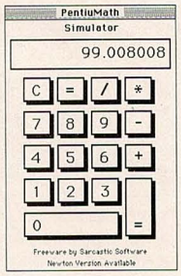
The stacks are easy to use and contain amazingly detailed analysis of all the programs. Information is given on characters appearing in all the different series, and on stuff like how a city that was mentioned in a TV episode crops up again in one of the films. Talking of which, all the films are detailed here, including *Generations*. If you haven't seen it yet, don't spoil your fun by reading the ending.

Even the cartoon series is catalogued. I didn't know there was one. One of the more entertaining parts of these stacks is the record of mistakes. These include both illogical storylines and filming mistakes. In the second film, for instance, Khan says to Chekov, 'I never forget a face', referring back to the TV series. Khan must have a very good memory indeed: Chekov's character didn't appear until the season *after* Khan appeared in the TV series.

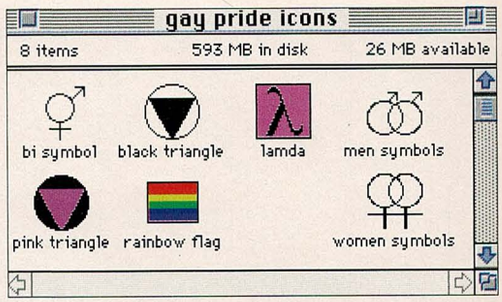
There's also a very usual feature that enables you to keep track of which episodes you've videoed. These stacks will be utterly invaluable to fans everywhere, but even those people who aren't sad Trekkies will probably find something to make them go 'Gosh'. Did you know, for instance, the



When things are looking bad, what you need is a mate. *DeskMates* will turn your Mac into that friend.



PentiuMath reminds me of the latest bumper sticker doing the rounds. It reads 'Pentium happens'.



This selection of *Gay Pride* icons should be invaluable for any politically correct reader who owns a gay Macintosh.

advantages over *SimpleText*, but the calculator is much better than the in-built one. It can do reciprocals, factorial combinations, hyperbolic functions and many other things that sound vaguely rude.

The calendar works in combination with a scheduler so you never need to forget a meeting, or your mother's birthday. And if you can't remember where your mother lives, don't worry, because there's also an address book. This program is a jack-of-all-trades, and not bad at several. If you want to get organised then this may well be exactly what you need (that, or your mother).

PentiuMath Simulator

PENTIUM SIMULATOR

Freeware

How many Pentium developers does it take to change a light bulb? Answer: 0.999997315.

Oh cruel fortune of chance! After all the hype about Intel's Pentium chip, it turns out that there's a small problem with the thing: it can't add up properly. Admittedly, it's a very obscure fault that has very little relevance to most people, but that's not going to stop Macs owners extracting the urine, is it?

But if your smug friend still boasts about his Pentium PC, you can now say you have a Pentium simulator that enables your Mac to do everything his can. The screenshot shows the result of me asking the program what 10 x 10 was.

I managed to really annoy several PC fanatics until one asked me if my PowerMac had crashed lately. Er... Okay, I promise not use the program any more.

Gay Pride icons

ICONS

Freeware

Collectors of icons everywhere will be jumping for joy at this essential addition to the world of tiny art. Yes, gay icons. Alas, there are only seven icons in this set, but I've never come across their like before. I'm not entirely sure of the significance of all the symbols, especially the rainbow. Can you have a gay rainbow?

No doubt these icons will be of interest to one group that I came across at the recent MacWorld Expo in San Francisco, Digital Queers. Their stand proudly announced: 'We're here, we're queer, and we've got e-mail.' They publish a regular newsletter for computer wielding gays, and can be contacted via the Internet on **digiqueers@aol.com.**

RandomDot 1.0.3

STEREOGRAM MAKER

Freeware

Steriograms, which is how it's spelt in the documentation that comes with this program, are those pictures that at first look like a random mess of dots, but on closer inspection... do actually turn out to be a random mess of dots. I mean, come on, can anyone really see the wonderful 3D

PENTIUM AGGRO

If you'd like to see someone else giving Pentium a hefty kick when it's down and embarrassed, have a look at Josef Morell's column on page 32. Also, see News MACFORMAT 22.

TREK FACT

The second film was going to be called 'The Undiscovered Country' (later used for the sixth film), referring to Spock's death.

Continued on next page

only member of the 'usual' cast who appeared in the first pilot was Leonard Nimoy? *[Of course there was also Majel Barrett, later Mrs Roddenberry, wasn't there? But she wasn't playing the same role, so I suppose that doesn't count. – Sad old Trekkie, Ed]*

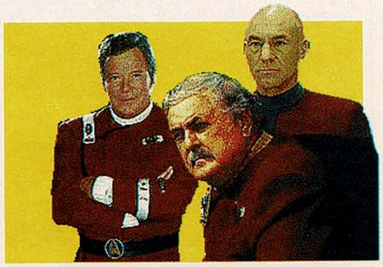
Star Trek Generations Mag

MAGAZINE

Freeware

To celebrate further the launch of the latest *Star Trek* film, there's a magazine about it. It was created with the shareware program *DocMaker*, and it's easy to look through information on the film's stars and major production people. There's plenty of fascinating information. For instance, Michael Dorn (who plays Worf) used to appear in Falcon Crest, as did Jonathan Frakes. This explains a lot about their acting, which would probably look better if they didn't have to stand in the shadow of Patrick Stewart and his long list of real acting experience.

When the MACFORMAT team went over to San Francisco for the recent Mac Expo, we went to see *Generations*, several months before it appeared over here. Of course, we didn't taunt our British Trekkie friends by telling them how good it was. That would have been cheap.



It came as a great shock to discover that James Doohan (Scotty) is in fact not Scottish at all.

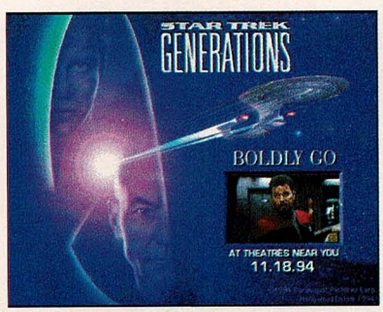
Star Trek QuickTime

MOVIE

Freeware

If you haven't already been persuaded to run out and see the new *Generations* film, then this trailer will interest you. It's not the greatest piece of multimedia the universe has ever seen but it does complement the other software here by showing you some footage of the latest film.

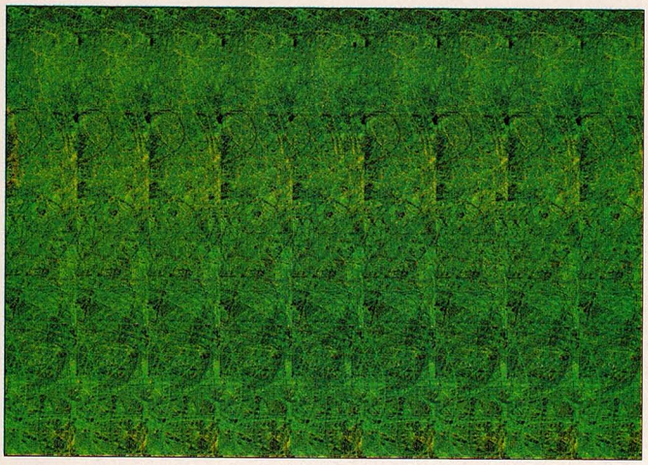
All of these products here have been created by *Star Trek* enthusiasts, but they serve to promote *Star Trek* and the new film extremely well. I wonder how long it will be before large companies see this as a way of advertising their products. A sinister thought: to boldly advertise where no one has advertised before!



Sample some of the stunning special effects in *Generations* with this trailer for the film.

TREK FACT

Gene Roddenberry only wrote the engineering scene into the pilot of The Next Generation because he knew he'd never get the budget to build the set later.



I've spent so long trying to see the picture created by *Coool Aberrations* that I could vomit. Wait a minute... that's it!

TREK FACT

The sets used in the first *Star Trek* film were created for a new TV series, but at the last minute plans were changed and the project was moved up to movie status.

images that are supposed to be there?

The program is easy to use. You just open any PICT graphic into the program and select whether you want it black and white or greyscale. The program then starts to convert it, so if it's a large file you'll want to go and make a cup of tea as it'll take ten minutes. If it's a smaller file then you'll want to do something quicker, like make love.

There's plenty of on-line help including instructions on how to view the pictures. One option to help you is called Shimmering. This makes the picture cycle through colours and stops you focusing on the image, as the theory is to focus beyond it. A useful feature that could only be done on a computer.

If you like staring cross-eyed at your Mac for 20 minutes at a time, this program is definitely for you. Bearing in mind that my optician charges rather a lot for his time, I'm opting out.

TREK FACT

William Shatner and Leonard Nimoy – who helped save some whales in the fourth film – are members of the 'Save the Whales' organisation.

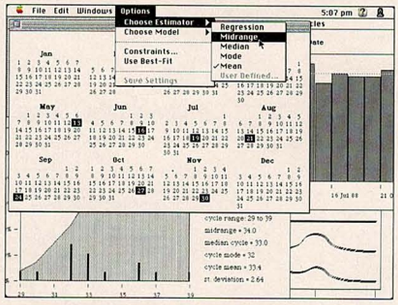
Coool Aberrations

STERIOGRAM MAKER

Freeware

Coool Aberrations, unlike *RandomDot*, can produce colour images. But it only creates esoteric patterns instead of a complete, single picture, and is about as easy to operate as a Boeing 747. To get very far you need to be able to use *ResEdit*, and paste PICT files into the program's resources (if you're already lost, don't bother).

If you are a stereogram fanatic then it's worth persevering. But otherwise you can get the same effect by repeatedly poking yourself in the eye with a pork sausage.



It's inadvisable to use *MenStat* with the rhythm method, apparently. I thought *that* was the theory that you won't get pregnant if you bonk fast.

MenStat 1.0 beta

PERIOD PREDICTOR

Freeware

About half the population will have periods in their life. This figure drops for our readership, not because of a gynaecological problem associated with the Mac, but because computers are a male dominated subject. But with the new man being sensitive to his partner's needs – and wanting to know precisely when he's going to have to dodge flying crockery – this program could find a wide audience.

You record the day your period starts on the calendar and after a couple of months, your Mac starts to predict when future periods will start. The more months you record, the more accurate the prediction becomes. Simple and easy, with the added bonus that the past data may be of use to your doctor one day.

There's also plenty of bar charts, flow charts (pardon the pun), diagrams and information. I suppose this could lead to the 'tampon lady' visiting schools demonstrating how to use a Mac. **MF**

WHERE TO FIND THEM

We often get calls from readers who want to know how to get hold of some of the shareware reviewed in these pages. Well, here are some of the methods:

1. Buy the CD-ROM edition of MACFORMAT: all the shareware we review is on there in a separate folder. There's also loads of other shareware on the CD every month, sorted into categories for you.

2. Write to a shareware dealer; there are several who advertise in the back of MACFORMAT. The dealer should have the program you are after, especially if they subscribe to our CD edition!

3. Use the Internet, if you have access. One of the best sources around is Imperial College at **src.doc.ic.ac.uk**. Use **ftp** to connect (login: **anonymous**; password: your e-Mail address) and cd to **computing/systems/mac**. Personally, I use the umich directory, but sumex is fine as well.

5. Local user groups often have libraries of shareware, so see if you have one near you. There are some listed in our Reader Ads section (have a look at page 128).

Finally, wherever you get your shareware, beware of viruses. At the time of going to press, *Disinfectant 3.5* (on MACFORMAT's CD-ROM) was the best and cheapest way of staying safe.

AutoDiagnostics 2.2

TECHNICAL MANUAL

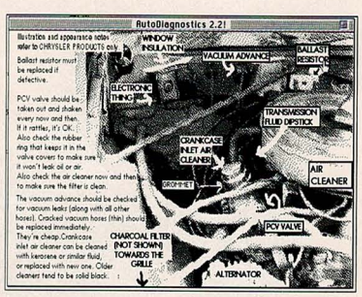
Shareware $5

My car maintenance techniques involve handing spanners to the missus, who is knee deep in grease and has her head under the bonnet while fixing the exhaust manifold. So this *HyperCard* stack seemed ideal. I was a little bit worried when the first thing it asked me was whether I had checked the ballast resistor. I own a car, not a submarine.

You are then presented with a whole list of things that could be causing the problem, such as blue smoke coming from the engine, stalling when wet, and clutch wobble (apparently caused by one of the wheels working loose or falling off or something like that).

There's also a diagram of a car engine, with labels such as Electronic Thing (this was definitely written for me), and Grommet (which I thought was a Plasticine dog). This section addresses problems such as the engine missing a cylinder. Surely it wouldn't miss just one?

Now I've got you all excited, here's the bad news: the data only applies to Chryslers, Plymouths and Dodges. So unless you collect classic American cars it's going to be of precious little use. I tried out a few of the techniques on my sexy green Skoda, only to be left with several oily pieces of engine cluttering up my kitchen table. Mind you, the car runs a lot better now – it only back-fires every three miles now and has only broken down twice in the last two days. I'll make an ace mechanic yet.



Having run *AutoDiagnostics*, I was impressed by its accuracy. It took one look at the Publisher's Mercedes and said, 'Yep, that's a car all right'.

Mac bargains! Mac bargains! Gitchor Mac bargains... Once again MACFORMAT has searched high and low to bring you the best Mac products at the best prices – no hidden extras, all prices include VAT and delivery! Order now by calling the hotline on 01225 822511.

MACFORMAT promotions

The essential shareware collection

Ten high density disks, packed with the very best shareware and freeware programs. No demos, just top-notch shareware software. Too many to list, but included are the latest versions of: *Disinfectant, SoundMaster, Apollo, BeHierarchic, FileTyper, Maelstrom, Graphic Converter,* and over 100 more. All programs work with System 7 and a colour monitor – some require them.

10 High Density Disks

Shareware collection vols 1-10
Price: £19.95
Order code: MFSHARE1

The ultimate value modem

We rate the US Robotics Mac & Fax as one of the best modems around, and now that USR has slashed its prices, we can bring it to you for an extraordinary £200. Only a few months ago, it was £469!

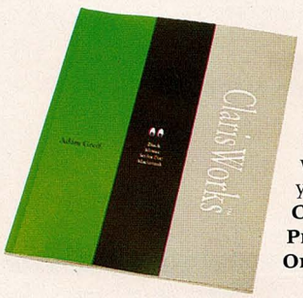
The Mac & Fax is a super-fast modem that can transfer data at up to 56,000 bits per second – 20 times as fast as a typical 2,400 modem. It does this by combining raw speed (14,400 baud) with the v32 compression system that shrinks the data before sending it. The modem works with any on-line service and comes with a Mac cable and all the software you need to access computers worldwide.

The Mac & Fax also enables you to send and receive faxes direct from your Mac, by printing from your document as normal.

All in all then, it's pretty fab and you shouldn't be without it. Our price for this remarkable piece of kit? Only £200!

NOW ONLY £200!

US Robotics Mac & Fax modem
Price: £200
Order code: MFMODEM



Need help with ClarisWorks?

If you need to know more than the manual tells you, then try this Black Mouse guide to *ClarisWorks*. Inside you'll find pages of practical advice and worked examples to help you get the most from your software. Special MACFORMAT offer – £2 off RRP.

ClarisWorks book
Price: £7.95
Order code: MFCWKB

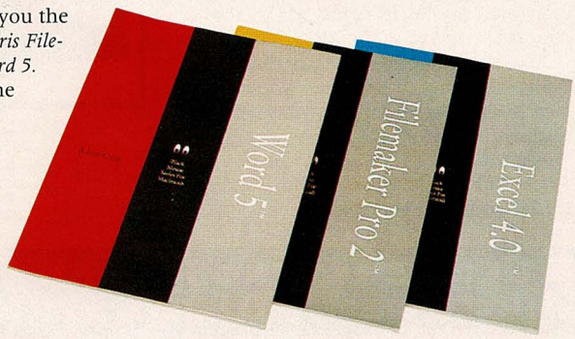
600Mb of programs!

The BMUG PD ROM contains over 600Mb of the best shareware software from all over the world, collected by the Berkeley Macintosh Users Group and put on one CD-ROM (1994 edition).

BMUG PD ROM CD
Price: £39.95
Order code: MFBMUGCD

Excel, Word and FileMaker help

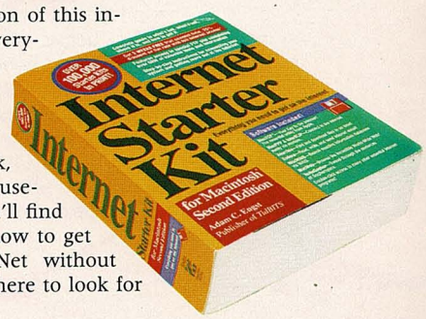
In the same series of Black Mouse guides are books teaching you the best of *Microsoft Excel 4, Claris FileMaker Pro* and *Microsoft Word 5*. All are available at the same bargain price.



FileMaker Pro book
Price: £7.95
Order code: MFFMPB
Microsoft Word book
Price: £7.95
Order code: MFWD5B
Microsoft Excel book
Price: £7.95
Order code: MFEXLB

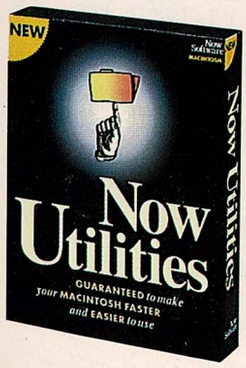
Internet Starter Kit

This is the second edition of this indispensable guide to everything you need to know about using the 'Net. The book comes complete with The Internet Starter Kit disk, which is packed full of useful software. Inside you'll find practical guidance on how to get the most from the 'Net without going bankrupt, and where to look for all the latest info.



Internet Starter Kit second edition
Price: £27.50
Order code: MFISKIT

Now Utilities v5.0



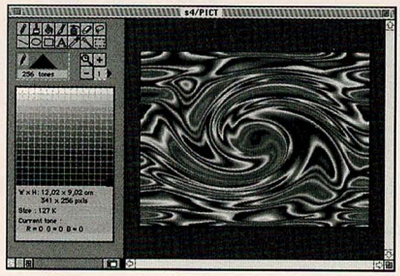
(MACFORMAT 19: 90%)
Improve the way you use your Mac with this collection of nine superb utilities. With access to all recently used files and applications, as well as pop-up menus for your folders, you can quickly navigate around the Desktop. You can also save hard disk space with automatic file compression. See our review in MACFORMAT 19, try the demo on the CD, then buy it at this special low price.
Now Utilities v5.0
Price: £60.99
Order code: MFNOW5

Treasure Hunt

(MACFORMAT 20: 90%)
A great multimedia title for kids. A group of pirates – who are also mice – set out in their ship to find treasure. They wander around a treasure island, with some gorgeously illustrated clues, until they find it. The pictures animate and there's music too. A unique feature is the bedtime story mode: the CD-ROM repeats itself at ever-decreasing volumes until your child falls asleep...
Treasure Hunt
Price: £28.99
Order code: MACHUNT

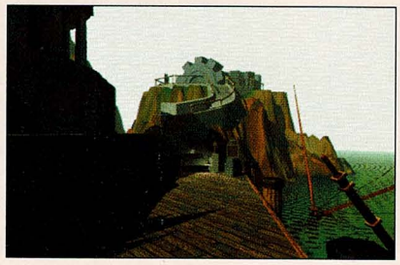
The silliest software ever!

UnderWare is a screen-saver, and it can customise your desktop background. It's fun. In fact, it's downright silly. *UnderWare* animates the screen as you work! Tarzan swings in and collides with the window, a thief makes off with your 68000, babies crawl everywhere, a dragon burns holes in the desktop... It even runs *After Dark* modules in the same way. We gave *UnderWare* 93% in MACFORMAT 9. Imported direct from the US, where it costs $59.95, MACFORMAT brings you total silliness for just £34.95.
UnderWare
Price: £34.95
Order Code: MFUNDER



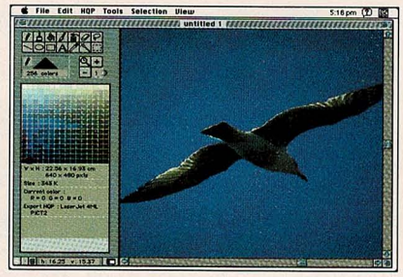
GrayStation 2

GrayStation is a kind of mini-*Photoshop* for greyscale images. *GrayStation* enables you to take an original image and edit it, altering brightness and contrast. Using the program's own unique High Quality Print system, you can create superlative images that print out better than ordinary scans – even on cheap printers.
GrayStation 2
Price: £39.95
Order code: MFGRAY



Myst

(MACFORMAT 9: 95%)
An adventure that has you exploring an island world with enthralling puzzles to solve and luscious visuals. This graphics extravaganza comes to you on CD-ROM.
Myst
Price: £39.95
Order code: MFMYST



ColorStation 2

(MACFORMAT 13: 90%)
Other software producers could certainly learn a thing or two about ease of use and value for money from Le Pixel. It's hard to fault *ColorStation*. With its straightforward controls, this is an excellent choice for novice DTPers, covering all the graphics and printing bases in a convenient one-stop program.
ColorStation 2
Price: £49.95
Order code: MFCOLS

Redshift

(MACFORMAT 19: 92%)
Redshift is the best astronomy program there is, and it will provide hours of fascination for anyone with even the slightest interest in star gazing. It's a brilliantly conceived and excellently presented CD, with some genuinely innovative features. It's all that a budding astronomer needs.
Redshift
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(MACFORMAT 14: 91%)
We were so impressed with *HyperStudio*, and its ability to enable any Mac user to create multimedia, that we got together with the UK distributors TAG Developments to offer MACFORMAT readers an exclusive deal on the software. We can offer you *HyperStudio* at just £117 – that's almost £50 less than the RRP.

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KPT Bryce
SAVE over £35 on RRP

(MACFORMAT 20: 91%)
Produce incredible landscapes on your Mac with *KPT Bryce*. You have complete control over the shape and form of your terrain. Clouds obey your every mouse-click and a storm can be conjured up in seconds. Journey into space; visit unknown planets and their mysterious moons.

Once you've started to use *Bryce* you'll be unable to stop creating wonderful graphics. Reviewed in MACFORMAT 20, *KPT Bryce* scored 91%. It requires an LCII or better, 4Mb of free RAM, and System 7 or later.

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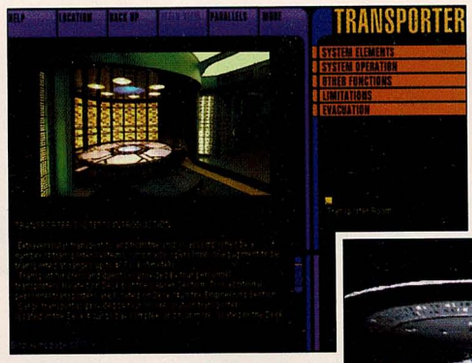

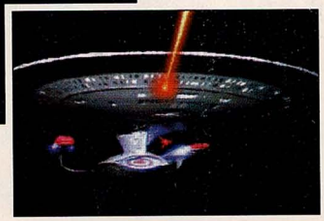

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(MACFORMAT 20: 92%)
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Price: £39.95
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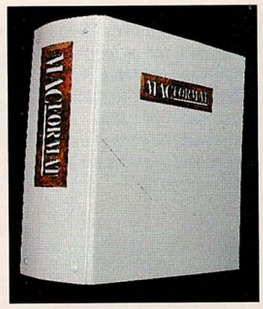

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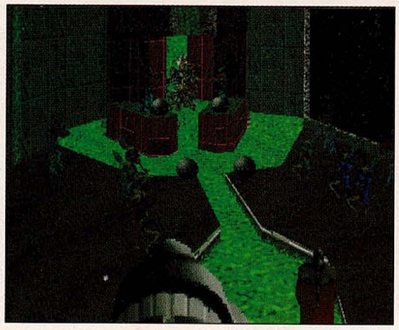
Marathon

The best Mac game ever?

At last, the game we've all been waiting for has arrived! It's better than *Doom*, quicker than *Wolfenstein*, and harder than Cantona. Andy Hutchinson waxes lyrical... for a change.



Deep into the game you find your way onto the Alien space craft. Nice fluorescent carpet.

This guy is armed with a grenade launcher, but it switches to a machine gun at close quarters.

Computer games have come a long way since *Space Invaders*. While the themes might have stayed the same (shoot, kill and maim), the actual look and feel of recent releases have changed out of all recognition. Long ago we were happy with four colours and the odd beep, but now games have to have 64-channel Dolby surround sound, 16.7 million colours and rendered graphics, before we even deem to peruse the screenshots on the back of the box. But while *Marathon* is still a shoot-'em-up, it bears about as much resemblance to *Space Invaders* as a Jaguar XJ40 does to a Reliant Robin.

Play the game! There's a demo of *Marathon* on this month's CD-ROM

The mood of the game is set brilliantly by the title screen. Some suitably ominous music plays and the legend 'Somewhere in the heavens they are waiting' appears on screen. As indeed they are. Loads of the blighters, all quite happy to reduce you to protoplasm.

Before play begins you've got to set the game up. You need to take account of the speed of your Mac by tweaking the game environment from the preferences screen: you can set the screen resolution between high and low, change the window size, and alter the number of colours used. If you've got a quick PowerMac, then you can leave everything on full, but mere mortals'll probably have to play through a window, with the detail level set low.

The scope of this game soon becomes apparent when you flip to the control preferences screen. There are 21 different key settings, which can be modified according to your personal tastes. These cover everything from basic movement controls through to the weapon control keys. As with all games of this genre, getting the right key settings can make the difference between finishing a level and ending up as pavement madras.

Marathon is essentially a first-person shoot-'em-up. You view the 3D game world through the eyes of your soldier. Your character can move through 360 degrees as well as looking up and down and glancing left and right. What this means is that you can assess the likely dangers of a particular room, before charging in with your assault rifle blazing.

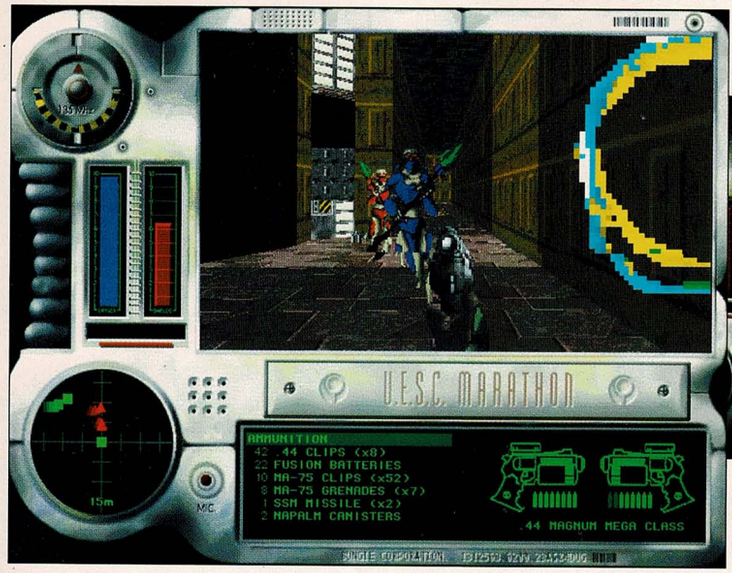
The idea of the game is to liberate the good ship Marathon. This enormous starship has been invaded by aliens who are making the most of the fact that one of the on-board computers has gone totally nuts. Luckily, you've got a bit of help in the shape of Leela, the ship's main computer. Leela guides you through the early levels, explaining exactly what you've got to do, and transports you between levels – believe me, you'll appreciate her help.

Initially the aliens aren't terribly hard. You can kill the standard soldiers with two shots from your .45 Magnum, and their superiors with a quick blast from your assault rifle. Later on, of course, there are some particular vicious blighters who can wipe you out with one burst from the their chest mounted weapons.

This being an arcade game, there's some brutal weaponry lying around. To begin with, all you have is a Mega Class .45 Magnum that uses eight-shot clips of ammo. The next toy on the list is the M.75 Assault Rifle, which comes with a grenade launcher. This fires 600 rounds per minute. Next up is the Fusion pistol, which fires high-impact energy bolts and looks a lot like a humidifier. If the action gets hot, then the Lazyboy Launcher is a safe bet – this fires high explosive mini rockets over a range of 2,500 metres. Fi-

MARATHON CRAZY

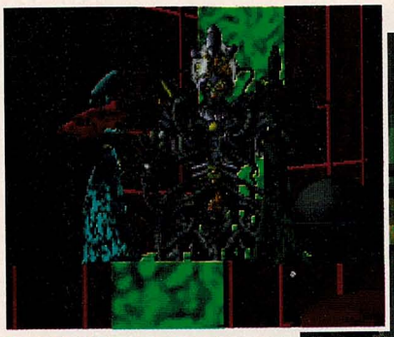
Marathon even has its own internet site, *The Official Marathon World Wide Web Site*, which can be found at **http://www.netweb.com/mall/marathon/**. This contains cheats, tips, level editors and all sorts of info. Log on and see what exciting stuff you can find.



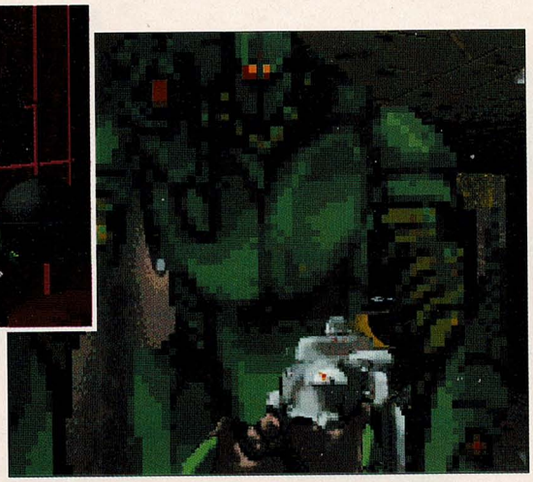
Your health status is shown by the red bar at the left of the screen. The circle underneath that is the movement detector.

At any time in the game you can bring up the map to see where you've been. You can still keep moving around while in map mode.

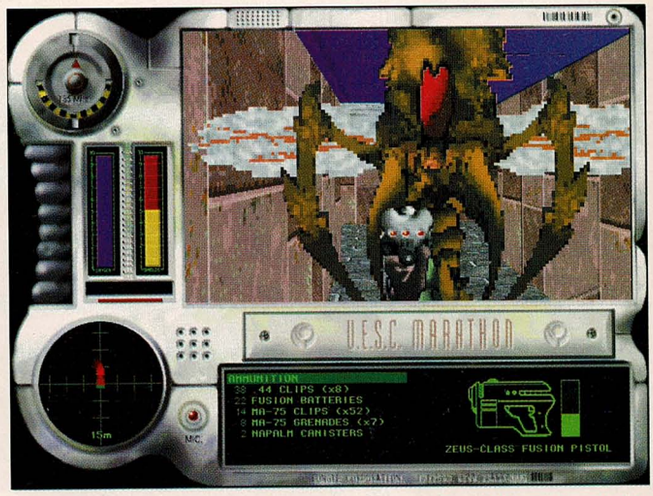
There is a large variety of weapons to choose from, but don't use the rocket launcher in a confined space!



Board the alien spacecraft and kill this big baddie, and some of the aliens start to rebel and join in on your side.



These giant Hunters are tough guys. Worst of all they seem impervious to my lovely new flame thrower that I just found lying around.



These flying creatures tend to swoop down at you from above when you least expect it and spit poison on you.

nally there's the Flame unit, which can spray napalm over a radius of 20 feet.

While a good deal of your time is spent doing battle with aliens, there's also a puzzle element. In order to move between levels and ultimately gain control of the ship, you've got to ferret around for various things. This involves searching lockers, hunting around in rooms and tripping switches. Then when you've completed a level, you can use a Jump Pad and head for the next level.

Exploration of the ship is easy, thanks to the auto-mapping function. – you can quickly see the entire layout of the level, complete with mission objectives. If you get lost in a maze then you can actually move about with the map switched on, meaning that getting from A to B is a cinch. Your other main piece of equipment is a motion sensor (just like in the movie *Alien*), which displays all enemies up to a range of 15 metres. You can augment your personal inventory by picking up BioChip Enhancements – these include infrared sight and invulnerability.

The professional look and feel of the game is echoed in the gameplay. The game has a superb difficulty curve – you can find your feet, learn the control keys and kick some alien butt before dying your first lingering death. The inclusion of Leela, the shipboard computer, is an excellent feature that enables you to go back over mission objectives if you become hopelessly lost.

Thanks to the difficulty setting, the game is as easy or as hard as you want. To begin with you'll be best off on the Kindergarten level: there are fewer aliens who you can kill easily. But once you've mastered the controls, you can select a harder difficulty level, in which there are loads more aliens. you can even change the difficulty level halfway through a game; if you're walking it, crank up the heat and see what you're really made of.

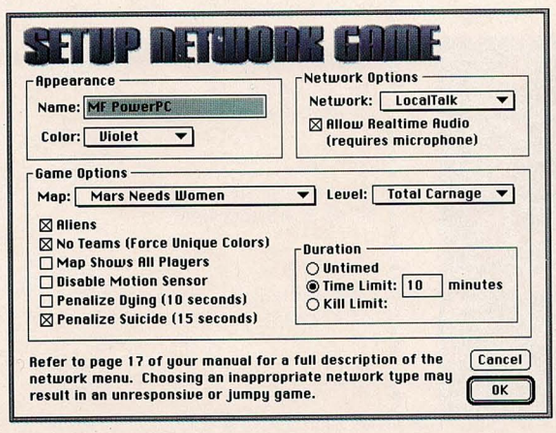
Graphically *Marathon* is hard to fault. There's plenty of variety in terms of the ship's decor and (depending on the graphics level you've chosen) loads of detail. My only gripe on this front is the animation used for the aliens: they lurch in a peculiar manner, reminiscent of someone trying to moon walk with something up their bottom. But if the programmers had spent as much time perfecting this aspect of the game as they obviously have on everything else, I wouldn't have had *any*thing to complain about.

The ultimate test of a game is always its addictiveness and *Marathon* scores highly here, thanks to some very large levels and a series of testing – but not insoluble – puzzles. Occasionally you'll find yourself wandering around a bit because you've shot all the aliens but missed one of the keys; but this doesn't detract from the gameplay as you really want to get on to the next level.

Of course longevity is always a problem with shoot-'em-ups – if you've defeated the aliens once, why should you try again? Realising this, the *Marathon* development team has included an excellent network option. You can hook up to a series of Macs and have a go at blowing up your mates. This even comes with a microphone option so you can insult your friends just before you erase them in a blaze of bullets.

I've been waiting ages for a game this good to turn up on the Mac. PC owners have had it their way for far too long and it's about time that we had something to crow about. *Marathon* is an involving, professionally designed, fast moving, witty and exhilarating game that makes *Doom* look like Mah Jong. If this game was a woman, it'd be Pamela Anderson – I can think of no higher accolade. **MF**

MACFORMAT Classic



This is probably the most bizarre weapon you'll find. It belonged to an alien before I killed him.

When you play the network game, you not only battle against other players, there's loads of aliens who aren't particular who they shoot.

MARATHON

Price: £58.74. Out: now.
Requires: LC or better, 3Mb of RAM, System 6.0.5 or later and a 256-colour monitor.
For more details contact Softline on 0181 401 1234.

GRAPHICS 93%
Bright, varied, colourful and atmospheric. Shame about the aliens' walk.

SOUND 92%
Gorgeous stereo (play it through headphones) and excellent sampling quality.

GAMEPLAY 93%
Oh yes, oh yes. Stuff this in your pipe and smoke it, all you *Doom* geeks.

MACFORMAT RATING 94%

NETWORK CHAOS

Each copy of *Marathon* comes with a spare serial number, immediately enabling two people to play across a network. If you know three other people with their own copy, up to eight people can play the same game at once. Excellent fun!

Loony Labyrinth

Travel back in time to Ancient Greece and do battle with the Minotaur, flap those paddles, and head for the mega scores in this colourful and addictive pinball simulator.

One important technique is learning to hold the ball still with the flipper before taking an aimed shot. Another technique is sobbing a lot.

Loony Labyrinth, despite the lack of numbers after its name, is a sequel, and unlike *Superman IV*, it's better than the original. Back in MACFORMAT 13 we reviewed the original, *Crystal Caliburn*, which picked up several industry awards on its way to becoming a best-selling game. And this one's better.

Caliburn was based around the legend of King Arthur, but that's been swapped for Ancient Greece and the legend of the Minotaur. The story goes like this: Daedalus built a labyrinth where King Minos imprisoned the Minotaur, a creature with the head of a bull, the body of a man, and the sense of direction of Mark Thatcher. I mean, why didn't he find his way out? Theseus did, after he killed the Minotaur. But then, he had a ball of thread donated by Ariadne.

Despite all this ancient history, the game is set in the modern day. The main gameplay revolves around creating a time machine to travel back to 2000BC to visit the Minotaur. This is where you can score major points. By providing a specific challenge like this, the game gives you something tangible to play for, rather than just amassing a high score, which would become boring after a while.

The conditions for completing the challenge are complex and won't make much sense until you play the game; you shoot balls around ramps, hit lights, and ultimately install the ball in a hole. The difficulty setting is spot-on. It's almost possible... but after much play I never quite managed it. And this makes you go back for more. If you do manage to travel back 4,000 years, the next task – to return to the present – is absurdly difficult.

Several things are better than in the original: there's a third ramp, a third flipper, and the flippers are bigger and bolder – in fact, everything is. *Crystal Caliburn* appears rather weedy in comparison.

A crucial part of the game is getting a multi-ball – you get three balls to play with at once, and you can score in a big way. You change tactics: instead of aiming carefully, you end up hitting the keyboard furiously when anything moves.

The controls consist of two keys to operate the flippers. You have a nudge control too, but you won't need it much. It simulates a big fat guy leaning against the table to influence the path of the ball. It's of little use here: you're more likely to end up tilting the table and losing your balls. It's a tough discipline regime.

My criticism of the game is that, like Paul Gascoigne, it's too expensive. There's only one table, and although it's an addictive game, it wears a bit thin after a while. Much of the programming work was done in the original, so the authors have only really changed the graphics.

Compared to most platform games, where you get loads of screens, this game rates rather low on value for money – that's the only reason it doesn't get a MACFORMAT Classic award. But what it lacks in value, it makes up for in addictiveness. I thoroughly recommend it.

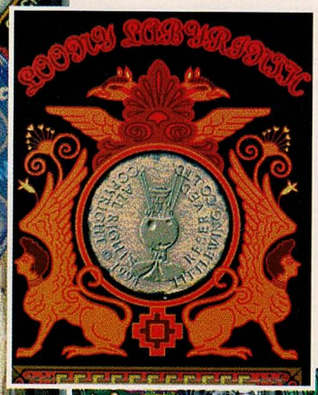
DEREK SMITH

Try out the demo of *Crystal Caliburn* on the CD. *Loony Labyrinth* coming soon.

LOONY UPDATE

Starplay, the publisher of *Loony Labyrinth*, is producing an update to make the game harder; it's free on request. Expert pinballers had complained that it was too easy.

To succeed with *Loony Labyrinth* you have to complete many complex tasks in a set order. It's not simply a case of whacking the balls about. There are tactics, you know!



There are tonnes of special features, bonuses and extras to be fought for, and these all add to the addiction level.

The original pinball simulator, *Crystal Caliburn* had smaller flippers and more fiddly graphics than this sequel.

LOONY LABYRINTH

Price: £39.99. Out: now
Requires: LC or better, 2.5Mb of free RAM, 4Mb hard drive, System 6.0.7 or later, 14-inch 256-colour monitor.
For more details contact Softline on 0181 401 1234.

GRAPHICS 78%
Bold and beautiful, but there's not much of them.

SOUND 82%
Music that you'll want to turn off, but plenty of great samples.

GAMEPLAY 90%
Immensely addictive – a game you'll return to time and time again.

MACFORMAT RATING 81%

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Wacky Races

Dick Dastardly and Muttley, cunningly disguised as hamburger sellers. Nobody will suspect a thing.

They're wacky! They're racers! And now they're the, er, stars of their very own wacky racing game – well that's one way of describing it. Sassen frassen rassen...

This is your car – the T-Bone Rex (or something). Click on it to interactively climb aboard.

You've probably slipped into one of those conversations at least once, in a pub somewhere, in a moment of social desperation:

'...yeah, and do you remember *The Clangers?* They were superb!'

'Yeah, with – what was it? – the Soup Chicken or Soup Kitchen, or something?'

'The Soup Dragon, wasn't it?'

'Oh yeah, of course. I remember now.'

'Yeah, definitely the Soup Dragon.'

'And, hey, what about that village thing, *Camberwick Green*?'

'Oh yeah. Something like, Pugh, Drew, Barley, McGrew–'

'No, no, it was Hugh, Pugh, Barney McGrew, Cuthbert, Dibble, Grub...'

And so on. You'll usually come around to *Wacky Races* in the end, dwelling dewy-eyed on the comical exploits of Penelope Pitstop, Pat Pending, Peter Perfect, the Boulder Brothers, and – hey, yeah – Dastardly and Muttley. But if you've ever been so fired up by all this as to buy a *Wacky Races* video cassette, you'll have been disappointed to find it was never actually very funny at all. Not really. Muttley's 'Sassen frassen rassen' might still occasionally raise a smile, but that's about it. Nostalgia can twist your mind in frightening ways.

But don't let it twist you into buying *Wacky Races: The 'Digital Film'*. No. I'm sure you'll be more sensible than that. You'll spot the word 'interactive' repeated no fewer than four times on the back of the box, and alarm bells will start to ring.

It's not even the same Dick Dastardly. The harmless, bungling cheat of the cartoon series has been replaced by a homicidal maniac. 'I'll crush anyone who gets in my way!' he says. 'Eee ha ha ha ha ha! The time has come to start Operation Evil Will Prevail!' Yikes. And, even more sinisterly than that, *he is rendered*, with the vacant, staring eyes and unpleasantly shiny skin that all rendered characters have.

The idea of the 'game', if that's the right word, is as follows: first, you pick two Wacky Races cars to bet on, from the initial line-up of ten. Then you sit back and watch a race, replayed in a small window in the middle of the screen. (These are done in the style of the cartoon, with a commentator and everything, except that they're rendered to quite terrifying effect.) If one of your cars wins, you may proceed to the second half of the game. If not, you, er, do it again until you do win.

The other half consists of a point-and-click adventure of the most banal variety. It's divided into ten sections, and the one you play depends on who your winning character was in the first half. Urban Land, for example, opens with a picture of the Wacky Racers in front of a building. Click on Penelope Pitstop and she says something like: 'Hey, I hear the view from the top of that observatory is nice. Why don't you go up there for me?'

Try it and you're told that you need a ticket. Click on the Anthill Mob and they give you a ticket. You may now go to the top of the building, having to change lifts halfway up for no apparent reason. At the top you'll find Dick Dastardly. After hearing him say some stuff, you click on your car's Special Arm button and a Special Arm grabs him and squeezes him. And that's it – a tenth of the game completed.

The Clangers would never have stood for this.

JONATHAN DAVIES

RELEASE DATES

Wacky Races' publisher, Future Pirates Inc, hasn't released the game in Europe yet. It's waiting for a licence from Hanna Barbera before it can use the *Wacky Races* characters. We'll let you know who's distributing it in Britain when it's released.

RENDERING?

Basically, this is computer drawing. Images can be rendered as wireframes, as simple faceted objects, or – like Dick Dastardly and co – with full photo-realistic 'ray-tracing'. For more details see the 3D series that started in MACFORMAT 21. This issue it's on page 86.

Here's where you choose two cars and then wait five minutes to find out whether you picked the right ones.

An interactive card game, where you must interactively challenge Dick and Muttley. You always win. Interactively, natch.

Come away, children. Surely our bumbling chums weren't this frightening in the cartoon?

Hurrah! You've captured Dick, by cunningly clicking on a button in the corner of the screen. Just like you did the other nine times.

WACKY RACES

Price: $49.95. Out: not available yet.
Requires: LCII or better, System 7 or later, 4Mb free RAM, 256-colours, CD-ROM drive (double-speed recommended).
For more details contact Future Pirates Inc. on 001 310 396 6788.

GRAPHICS 90%
Painstakingly rendered, and impressive throughout.

SOUND 80%
Incredibly good, almost as if it's being played... straight... off... a CD.

GAMEPLAY 26%
Gameplay? Pah. This is an 'interactive movie'.

MACFORMAT RATING 38%

Emerald Creative Technology

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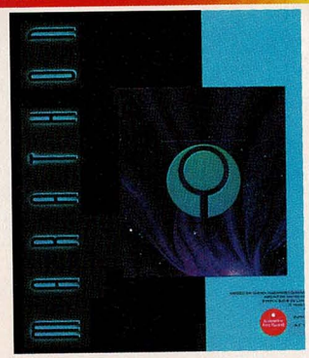

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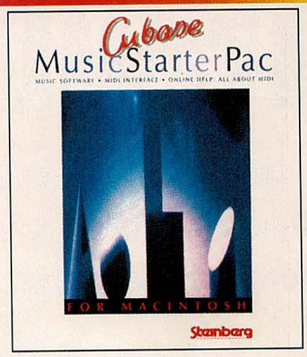

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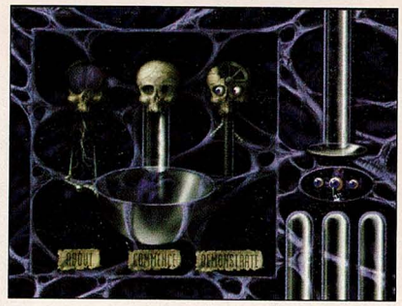
54 Wandle Bank
London SW19 1DW

Troubled Souls

A rather apt name for a game that drives you infuriatingly close to the brink of insanity after repeated left-right mouse movements, and precious little else.



Hoil, boil, toil, and so on – these three likely looking lads introduce you to *Troubled Souls*.

Troubled Souls might better have been called Tortured Wrist. It's a puzzle game where manual dexterity is the main requirement for success, and the ability to move the mouse quickly, accurately, and without thinking is the only way that you're going to score any points. Let me explain the objective...

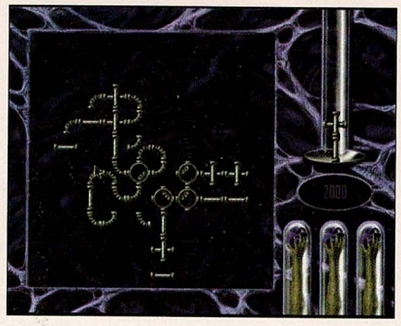
Basically, you create shapes – circular ones mostly. You connect small pieces of differently-shaped piping together, creating contained areas, on a six-by-six inch playing surface (that's about the size the game board fills, irrespective of the size of your monitor). Once you've managed to create a closed-off, curve-sided shape, that shape then disappears. This frees up that area of the board, thus enabling you to start over. For completed shapes you're given points; get enough points and you appear on the high score table. So far, so... dull, really.

The shape sections fall down a chute to the right of the playing area, one every two seconds or so. You can only place one piece at a time – the one at the bottom of the chute. This immediacy of gameplay leaves little time for thought or planning, because if you ponder too long the pieces mount up in the chute. If they get to the top – in *Tetris*-reminiscent style – the game's over.

Troubled Souls (or Tortured Wrist, whatever) is a simple game in design terms, and it has much in common with *Tetris*. There are a few special game pieces, such as the quarter-circle, which constantly shifts is orientation, but really there's not a lot to it: you make a circle, you gain some points, you get completely confused, you let the pieces get to the top of the chute, you swear loudly, and the game's over. It's not particularly clever, but even so, it's infuriating enough to inspire you to keep trying again, if only to prove to yourself that you're actually capable of playing it.

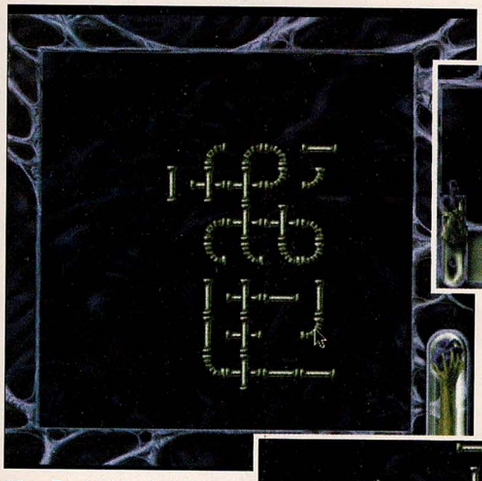
Thankfully, it's the presentation of the game that lifts it above the average – there's a gothic theme maintained throughout, with part-decayed skulls and hollow voices that refer to you as 'Mortal'. This and the superb high-resolution graphics make *Troubled Souls* look and feel like a polished product into which at least a modicum of effort has been poured. This doesn't excuse the simplistic gameplay, but it does make the game more enjoyable, if only because it's mildly amusing in that it takes itself so seriously. It attempts to be chilling – but making circles out of bits of lead pipe is hardly Lovecraftian in its macabre implications.

Troubled Souls is a time-filler – a three-minute infuriating wrist-twitch between more serious sessions on your Mac. And it would have trouble holding your attention for much longer. Its banality is strangely appealing, in much the same way that *Tetris* was rewarding, despite being pointless, and those attractive graphics and Hammer Horror sound effects add to *Troulbed Souls'* appeal. So: fun in small doses and potentially RSI-inducing in the long run. **PAUL PETTENGALE**



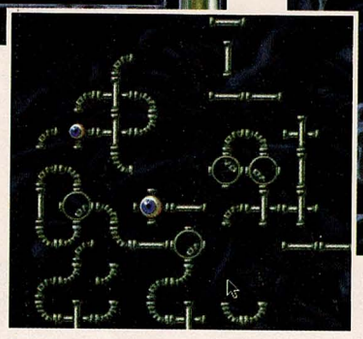
Surrender indeed. My wrist aches, my brain hurts and the macabre overtones have totally depressed me.

Have a look at the interactive demo of *Troubled Souls* on this month's CD

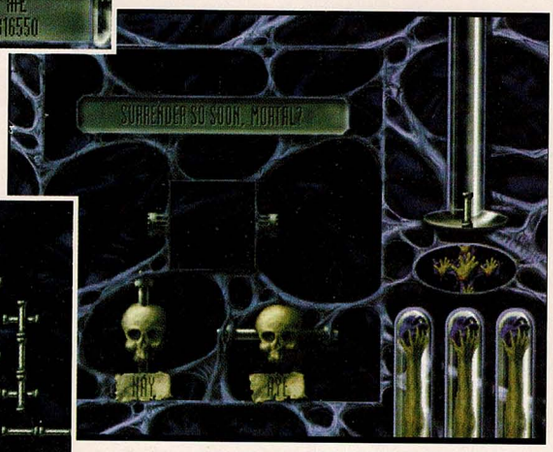


When *Troubled Souls* starts it's fairly simple, with lots of easy shapes to link together.

The partly decayed skulls add a gothic theme to the game.



The pulsating eyeballs soon appear once you're further into the game and you've scored more than 5,000 points. Not that you get that far too often.



Get past 2,000 points and new shape types are introduced, such as the moving corner section that helps form circles in all directions.

ADDICTIVE PAST

Troubled Souls was written by 17-year-old Randy Reddig. He was obviously inspired by the addictiveness of games like *Pipemania*, which is a available on many other platforms, and the water pipes section of the incredibly complex but gorgeously rendered *Myst*. For more information on *Myst* see MACFORMAT 9.

TROUBLED SOULS

Price: $49.95. Out: now in the US, British distribution still not decided.
Requires: any Mac, 4Mb of RAM, System 6.0.7 or later, 256-colour monitor.
Contact Varcon Systems on 001 619 6700.

GRAPHICS 82%
Slick, with gothic overtones.

SOUND 80%
Humorously eerie samples and melodramatic music.

GAMEPLAY 56%
Overly simple, yet addictive for short bursts.

MACFORMAT RATING 64%

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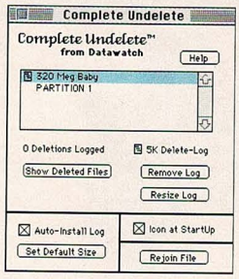
Datawatch SuperSet Utilities



Ever trashed a file and you wished you hadn't? Well don't worry, because with *Complete Undelete* you can resurrect the dead any time you wish.

Digital sniffer dogs, metaphorical barbed wire... Mac security and data protection comes in many forms. Andy Storer looks at five types all wrapped up in one convenient package.

Viruses, hard disk crashes, accidentally deleted files, unauthorised access, communications errors... You may have the most user-friendly operating system in the world, but that doesn't guarantee that it's going to be entirely plain sailing.

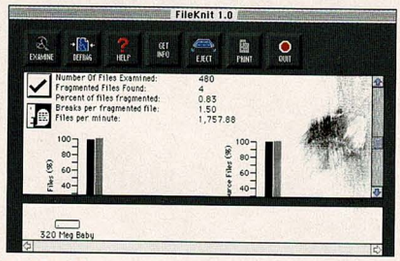
The best way to safeguard against the inevitable disaster is by practising what we might term 'safe hex'. And in this case, the digital prophylatics come in a handy five-pack, courtesy of Datawatch SuperSet.

So what do you get in this one-stop shop, and how good are the contents? Well, *Superset* comprises five data recovery, protection and management utilities, they're shrink-wrapped in one hefty package, and struggle under the weight of 1,000 pages of detailed manuals. Unfortunately, the installation process isn't automatic – you have to choose which Control Panels and Extensions you want. It would be preferable to have one generic installer that does the job for you. But that small gripe aside, there's plenty here to thoroughly recommend this product.

Perhaps the best known of the utilities on offer here is *Virex 4.0*, the automatic virus scanner that can be configured to check any floppies inserted in your Mac. It detects the presence of all known Mac viruses and Trojan horses (the insidious pests that masquerade as legitimate code) and it also repairs infected files. Once you've installed *Virex 4.0* as a memory resident System Extension, this much-acclaimed virus checker continuously monitors your Mac after it's been disinfected, and prevents further infections.

Also onboard are the suite of tools going under the collective name of *911 Utilities*. These are essentially the extensive *Troubleshooting Guide*, which details solutions to common problems encountered when using a Mac, and *1st aid HFS*, a powerful data recovery program that enables you to rescue data from damaged disks or files. *The Troubleshooting Guide* is a thorough manual, some 300 pages thick, containing all the techie stuff you'd be hard pressed to find anywhere else. It really should be bundled with every new Mac sold. Of particular note is the section on Mac error codes – you know, those negative numbers that even when you look them up in the System manual, remain meaningless: 'Bad I/O unit number', 'NIL memory handle' and 'Invalid queue element', for example. Well, *The Troubleshooting Guide* at last explains all those messages in something other than Advanced Arcturan, and tells you how you can safeguard against them in the future.

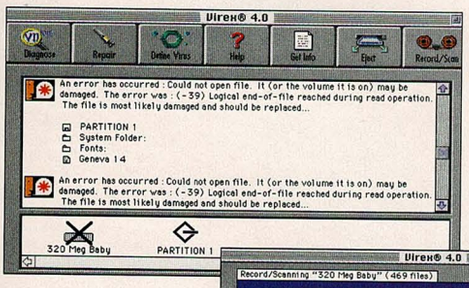
Complete Undelete picks up where *911* leaves off, in that it offers a reliable method for recovering files that you've thrown into the Wastebasket – even after you've emptied it. Again *Complete Undelete* works by continuously scanning your Wastebasket as a memory resident System Extension. And it can be configured



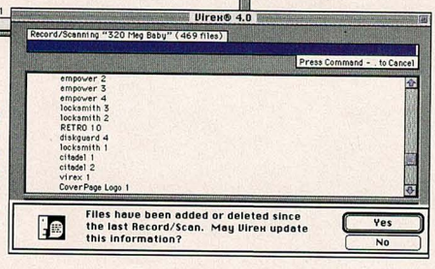
Hard disk fragmentation is a common problem – anything over 10% and you should start to get worried. But *FileKnit* gives you reports of the state of your storage at any time and optimise its performance.

ALTERNATIVELY...

Before making a decision whether or not to buy *Datawatch SuperSet Utilities*, have a look at the head to head review of *Norton Utilities* versus *MacTools* in MACFORMAT 18.


Virex® 4.0
Diagnose
Repair
Delete Virus
Help
Get Info
Eject
Record/Scan
An error has occurred : Could not open file. It (or the volume it is on) may be damaged. The error was : (-39) Logical end-of-file reached during read operation. The file is most likely damaged and should be replaced...
PARTITION 1
System Folder:
Fonts:
Geneva 14
An error has occurred : Could not open file. It (or the volume it is on) may be damaged. The error was : (-39) Logical end-of-file reached during read operation. The file is most likely damaged and should be replaced...
320 Meg Baby
PARTITION 1

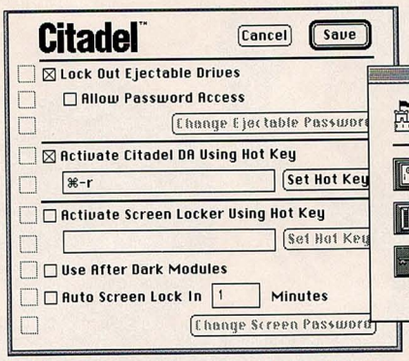
Besides offering a continuous monitoring of all floppies inserted into your disk drive, *Virex* can also detect and repair hard disk problems.



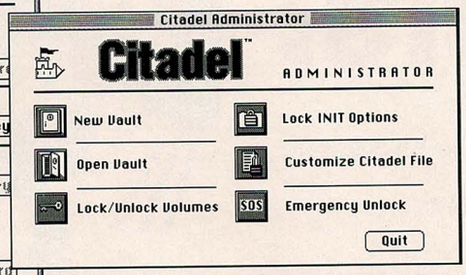
The facility to scan a storage volume and keep a log of all the files located on it is also handy for detecting if any unauthorised access has resulted in files being added or removed.

Here we have listed the ten most common ailments that you're bound to experience at some point in your Mac career. Okay, let's face it, we all put up with the occasional crash, and nine times out of ten these can be minimised simply by rebuilding your Desktop. But if any of the following are happening on a regular basis then you should seriously invest in some diagnosis and repair software.

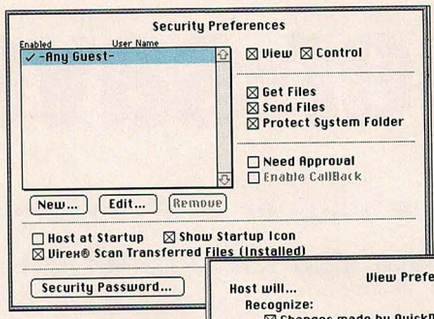
1. Frequent System crashes.
2. Strange behaviour of applications software, such as programs freezing or refusing to open.
3. Hard disk damage and lost data.
4. Systems software disabled or not functioning properly.
5. Documents not printing or printing improperly.
6. Windows not opening or closing properly.
7. Slow running applications and excessive use of memory.
8. Not able to open, copy or save a file.
9. Unexpected and unwanted messages being displayed.
10. Unusual sounds being made by your Mac.



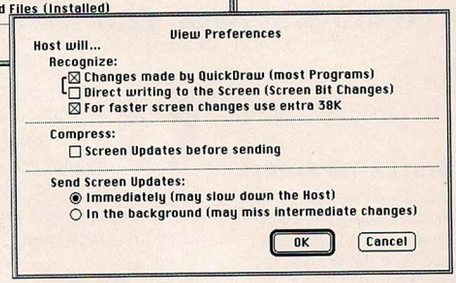
With facilities to prevent unauthorised access to your Mac while you're away from it – by password protecting a screensaver – *Citadel* offers file encryption as well as password security.



With *Citadel* you're also able to lock away individual folders – handy for keeping out the kids!



ScreenLink is a useful networking tool that enables you to set up conferences across AppleTalk. *ScreenLink* also offers remote access and network security.



Running under a network can put added pressures on any Mac connected to it – so *Screenlink* steps in to enhance those screen update times that anyone on a network spends most of their time cursing over!

to enable you to undelete as many files as you need.

The fourth component of the package is *Citadel*, a security toolbox that protects your Mac from unauthorised access. It is based on password protection for all storage devices that are attached to your Mac, and it also includes file encryption, which ensures that confidential information remains confidential. Of course, its usefulness depends on passwording, so you have to make sure you have a copy of your password stored somewhere safe. If you forget your password, even technical support can't save you.

Finally, *Screenlink* provides secure communications for network users and offers remote control capabilities and error-free file transfer between Macs. In addition you can use it to take remote control of another Mac's screen, keyboard and mouse over AppleTalk networks, or phone lines if you have a modem set up. *Screenlink* could well be an essential if you're running a small network because it not only offers remote access while you're away from the office, but also facilities to set up electronic conferences and training sessions.

While these are the five main modules making up this package there's also a couple of handy extras. *Shredder*, as its name suggests, makes sure that any files deleted really are deleted, despite the best attempts of both *911* and *Complete Undelete!* Also on offer is *FileKnit*, which is a hard disk defragmentation utility that enables you to optimise your drive's performance and safeguard against the kind of problems like unexpected crashes, lost files and corrupted documents.

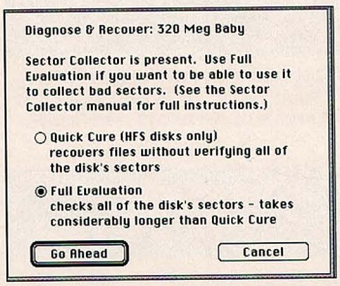
What is impressive about this package as a whole, though, is the documentation. It really sets out the territory to be covered in good detail and is written in a clear and informative style. So while the thought of turning your Mac into the equivalent of Fort Knox may be a little daunting, at least you'll know exactly *how* it's been reconfigured.

The hard question, of course, is whether you need to buy all five utilities in the one pack when you might need only three or four of them. And then there's the added question – would you be better off buying *Norton Utilities* or *MacTools* to handle file recovery and some proprietary programs like *DiskGuard* to take care of security considerations? Well, there's no easy answer. It all depends on what your needs are and what software you already own. Put it this way: there's nothing especially unique about any of these products – and in some cases, particularly in the virus area, you'd be just as well off buying shareware equivalents (keep an eye on MACFORMAT's shareware pages) or getting hold of freeware such as *Disinfectant* – it's on MACFORMAT's CD-ROM every month.

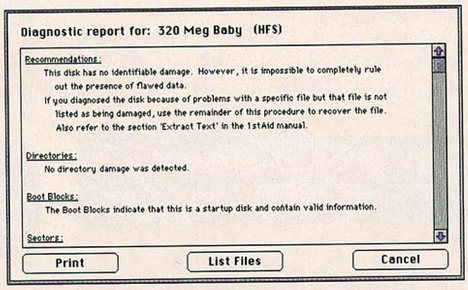
But *en masse*, the utilities in *SuperSet* do provide comprehensive coverage, and they provide it pretty seamlessly. As you might expect none of the programs interfere with any of the others – which is an achievement in itself considering the depths to which they stoop to do their respective jobs. And if everything goes horribly wrong at least you are provided with fully bootable System disks with onboard utilities, so you should be able to get access to your hard disk. Overall, this handy set of utilities can be heartily recommended. **MF**

MAC ANTIBIOTICS

Disinfectant is a virus checker that is updated every time a new virus appears on the Mac. Currently it is at version 3.5. You will find a copy on MACFORMAT's CD, and on the cover disk every time it is updated to a new version. But the best thing about *Disinfectant* is it's free!


Diagnose & Recover: 320 Meg Baby
Sector Collector is present. Use Full Evaluation if you want to be able to use it to collect bad sectors. (See the Sector Collector manual for full instructions.)
Quick Cure (HFS disks only) recovers files without verifying all of the disk's sectors
Full Evaluation checks all of the disk's sectors - takes considerably longer than Quick Cure
Go Ahead
Cancel

Simple to install and use, the *911 Utilities* include *1st Aid HFS* – a neat means of checking your hard disk for any formatting faults or lost directory structures.


Diagnostic report for: 320 Meg Baby (HFS)
Recommendations:
This disk has no identifiable damage. However, it is impossible to completely rule out the presence of flawed data.
If you diagnosed the disk because of problems with a specific file but that file is not listed as being damaged, use the remainder of this procedure to recover the file. Also refer to the section 'Extract Text' in the 1stAid manual.
Directories:
No directory damage was detected.
Boot Blocks:
The Boot Blocks indicate that this is a startup disk and contain valid information.
Sectors:
Print
List Files
Cancel

With comprehensive diagnostics, *911* is useful in providing a clear picture of just how robust your storage systems are, and what steps you can take to maximise their performance and reliability.

SUPERSET UTILITIES
Help
Price: £140. Out: now.
Requires: Mac Plus or later, at least 2Mb of available RAM, System 6 or later.
For more details contact Softline on 0181 401 1234.
FEATURES 90%
There's just about everything you could ask for in terms of security.
EASE OF USE 85%
Make sure you read the manuals first – this is complex stuff.
DOCUMENTATION 95%
Great – *The TroubleShooting Guide* alone is an absolute boon.
VALUE FOR MONEY 88%
Not bad value for an all-in-one utility set.
MACFORMAT RATING 90%

NEXT MONTH

If you're always forgetting your appointments and losing those ragged but extremely important scraps of paper, you can't afford to miss next month's review of *Expresso*, the personal management utilitiy. Plus a review of *DiskTop*, a disk utilities package.

Super-savers!

Banish boring blank or swirly screens with these colourful comic and cartoon screen savers.

The Marvel Comics Screen Posters include classic covers, Captain America's 1940s origin page, and... er, well, pin-ups. Anatomically impossible ones too.

Once upon a time, screen savers just blanked your screen after a specified time of inactivity, to prevent static elements like the Finder's menu bar from 'burning in' and leaving little ghosts of themselves on your screen. Not any more...

It's clobberin' time!

First up, there's *Marvel Screen Posters*. As the title suggests, you can use the Marvel Screen Posters as custom Desktop backgrounds, as well as still-image screen savers – which means that the system cycles through any or all of the 40 images supplied (randomly or in a pre-set order).

There's everything from classic covers and pin-ups to origin pages here... You can watch Captain America's 1940s origin dissolve into a gorgeously-painted beach scene that features an anatomically-impossible She-Hulk; or a Fantastic Four cover transform into the Incredible Hulk.

Fans may quibble with some of the choices, but there are some previously-unpublished images included and the quality of the digitising is pretty good. The only real drawback is the hefty memory requirements – up to 600K just for a Desktop background!

X-traordinary

If you prefer your screen savers a little more active, try the *X-Men Screen Saver* for some Dynamic Mutant Action™. See the Beast tumbling around your screen dodging ray-beams; marvel at Wolverine and Bishop rampaging over your Desktop, and so on.

There are 11 modules to choose from, all configurable in some way: select Magneto, for example, and you can toggle his magnetic attraction from positive to negative, display or hide his 'Sphere', and set his 'Evilness' along a scale that ranges from 'Not' to 'Extremely' (whereupon he emits a mirthless laugh).

Unfortunately, most of the images are pretty naff. Even the most fanatical X-fan would think twice about filling a screen with sound effects or 'X-logos' or even endlessly repetitive 'X-people'. The trivia quiz module isn't bad, though, and there's a security system too. This keeps the screen saver running until you enter the correct password, but you can get around this simply by restarting with Extensions switched off...

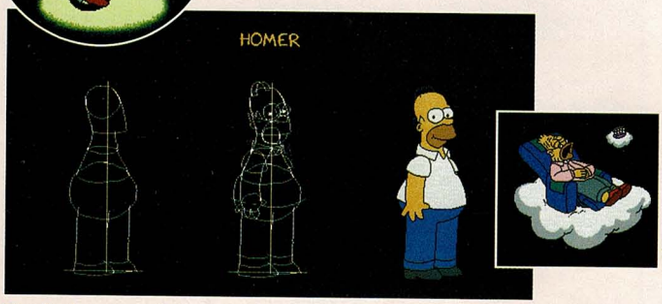
Don't have a cow, man!

Finally, how about a really comic comic? The *Simpsons Screen Saver* features Bart and family, plus Krusty the Clown and Itchy & Scratchy. Watch as Homer eats his way through your Desktop or Bart covers it with graffiti, as Krusty the Clown pedals around on his unicycle and juggles, or as characters' heads drift randomly around the screen and bounce off one another.

There are clever touches in every module. Homer eats his way through everything, for example, except of course for any 'healthy' food that Marge happens to leave him. And if you've always found *Tom & Jerry* that little bit too tame, the Itchy & Scratchy module is for you – utterly bloodthirsty and endlessly ingenious...

This package, like the X-Men screen saver, also has the password security system and a 'Trivia' module. But more genuinely educational is the 'How to Draw' module – it really does show you how to draw the Simpsons. Buy this one and your productivity will plummet: it's far more fun to watch than many of the cartoons.

ALEX SUMMERSBY



There's always something *happening* with the Simpsons screen-saver. My favourite is the Itchy & Scratchy module, which could be subtitled 'At least 50 ways to dismember a cat.' Too gory to show, but definitely one for watching!

Fill your screen with X-Men, see through a Sentinel's eyes as it targets mutants... or try an interactive trivia game. Not much to do with saving screens though...

SYSTEM 7.5 ALERT!

The *After Dark* screen saver engine is incompatible with System 7.5's Apple Menu Item Control Panel. You can switch this off, though; all it does is give you 'hierarchical' sub-menus under the Apple menu, as *BeHierarchic* did for earlier Systems.

TRY BEFORE U BUY

The *Complete After Dark Collection* contains the first three screen saver collections plus previews of the modules shown here and three *Star Trek* sets, which you can then pay extra to unlock if you decide you want them. It costs £49.99. Contact Instant Access, tel: 0181 205 2596.

X-MEN SCREEN SAVER

Price: £41.11. Out: now.
Requires: any Mac except Plus, SE, Classic or PowerBook 100, 4Mb of free RAM, 3Mb of disk space, System 6.0.7 or later. Colour monitor recommended.
For more details call Softline on 0181 401 1234.

MACFORMAT RATING 74%

MARVEL SCREEN POSTERS

Price: £41.11. Out: now
Requires: any Mac except Plus, SE, Classic or PowerBook 100; 2Mb of free RAM, 2Mb of disk space, System 6.0.4 or later, colour monitor.
For more details contact Softline on 0181 401 1234.

MACFORMAT RATING 77%

SIMPSONS SCREEN SAVER

Price: £41.11. Out: now.
Requires: LC or better, 4Mb of free RAM, 5Mb of disk space, System 6.0.7 or later, plenty of spare time.
For more details contact Softline on 0181 401 1234.

MACFORMAT RATING 83%

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HARDWARE FOR SALE

■ LCIII Performa 450 4/120, including *ClarisWorks 5.7*, box and manuals, CPU only, as new, 30 hours use – £400. Contact Paul on 01889 508551 or 01860 190930.

■ LCII 10/40, Apple 12-inch Trinitron colour monitor, keyboard, mouse, manuals, System 7.1 – £600. Tel: 01954 718879 (Cambs).

■ Siemens 800dpi monochrome desktop scanner with SCSI cable – £270. Micronet nuport SCSI-2 NUBUS accelerator board – £180 (with cable). Tel: 01831 486008 (9am-5pm).

■ Mac SE 4/40, mouse, keyboard, System 7.0 – £350 ono. Contact Sean on 01252 878779 after 5.30pm.

■ ImageWriter LQ with black and white and colour ribbons, boxed with manual, home use only – £100 ono. Contact Philip on 01900 85683.

■ Mac Plus with keyboard and mouse but no hard drive – £80 ono. Tel: (Bournemouth) 01202 558061.

■ SIMMs 4x1Mb, 30-pin, 70 ns – £80 ono. LC475 chip – £40 ono. Tel: 01273 700848.

■ Original Macintosh (US), 128K (upgraded to 512K in 1984), Apple external drive, ImageWriter, *MacWrite*, *MacPaint*, including all manuals, original packaging, all absolutely immaculate, collector's item. Tel: 0121 704 4412.

■ Performa 200 (Classic II) 4/40, boxed with manuals, and *ClarisWorks* also *Prince of Persia* – £450. Tel: 0117 9621480.

■ PowerMac upgrade card, unwanted, came with machine – £450 inc. Tel: 0191 281051.

■ HP DeskWriter 310c, boxed with colour kit and sheet feeder, six months old – £250. Or will swap for graphics tablet, new StyleWriter II or PowerBook. Contact Mark on 0181 677 9792.

■ Apple Power CD-ROM drive, leads and software – £100. Contact Magnus on (Edinburgh) 0131 447 7637.

■ PowerBook Duo 210, 4/80, as new with box and manuals – £600 ono. Tel: 0121 743 7721.

■ Newton MessagePad (original), upgraded to MP100, mint condition, boxed with manuals and Macintosh connection kit – £250. Tel: (Devon) 01271 73886.

■ Scanner, greyscale with software and cables — £250. Tel: 0181 868 9095.

■ Apple CD300 double-speed CD-ROM drive (external), boxed as new with software and SCSI cable – £125. Contact Terry on 0113 2525038 (evenings and weekends).

■ PowerBook 520, 12Mb of RAM, 160Mb hard disk, 16 greys, dual-scan display, only one month old and little used – £1,800 ovno. Contact David on 0113 2662723.

■ Apple 250Mb, low profile hard disk, used, two months old – £125. Tel: 01803 864033.

■ GCC BLP Elite, 4Mb – £400. Also ImageWriter II – £100. Both in excellent condition, boxed with manuals and cables. Contact John on 01270 211455.

■ Laser printer GCC BLP Elite (PostScript) c/w manuals, drivers, spare toner, little used – £295. Tel: 01527 584934.

■ Mac II VX – 8 – 230 CD, high resolution monitor, keyboard, mouse, with A4 300dpi PostScript laser printer – £1,800. Contact Ian on 0121 559 6514 (evenings).

■ Performa Plus 14-inch colour monitor, new, boxed, warranty – £180. Apple design keyboard, new, never used – £70. Tel: (Reading) 01734 886215.

■ Mac SE, 4Mb of RAM, 80Mb hard drive, no keyboard due to upgrade, hence – £250 ono. Good condition. Tel: (Warrington) 01925 243029 (evenings).

■ Greyscale Radius Pivot A4 monitor – £250 ono. Tel: 0181 802 0424.

■ 2 x 4Mb SIMMs, 72-pin – £80 each. US Robotics Sportster 14.4 Mac and fax – £85. Tel: (Nottingham) 0115 9203367.

■ PowerPrint cable plus software, prints on more than 1,000 printers! Ideal for PowerBooks on the move – £50. Tel: 0181 395 4589 (leave name and number).

■ Apple Lisa2, WP and keyboard, also one Apple daisy wheel and two dot-matrix printers. Tel: 01892 852355.

■ StyleWriter II – £130. Logitech Scanman – £150. *Photoshop 2.5* LE sealed and untouched – £60. Tel: 01372 722275.

■ Classic 2/20, home use only – £150. 6Mb upgrade to run PowerBook 100 at 8Mb, unused, cost £200, will sell for £80. Tel: 01642 320867.

■ Colour Classic 10/80, System 7.1, manuals, System software, disks, mouse, keyboard, stand and dust covers, light home use only – £600. Tel: 0171 261 9079.

■ Classic II 4/40, includes mouse, keyboard and manuals, very good condition – £350. Contact Marta on 0171 435 4530.

■ Hewlett Packard A3/A4, six pen plotter, good condition – £200. ImageWriter I, ideal home printer, good working order – £85. Contact Ian on (Aylesbury) 01296 613652 (evenings).

■ Mac LC 4/40, 12-inch colour monitor, System 7.1, *ClarisWorks*, manuals, StyleWriter, home use only – £800 ono. Contact Krista on 0181 896 3428 (answer machine).

■ PowerBook 140, 4Mb of RAM, 40Mb hard drive, internal modem, includes manuals, plus software, excellent condition – £480. Or will swap for desktop machine. Tel: 0121 526 3420.

■ Mac SE 4/40, keyboard, mouse, manuals, carry case – £350. Contact Roberto on 01473 620069 (evenings).

■ StyleWriter II, very light use, 12 months old, with two refills for cartridge, also Mac Performa 8/80, tonnes of software, CD-ROM optional – £1,200 or £1,350 with CD-ROM. Tel: 01977 791740.

■ Quadra 840 CD/AV, one-gigabyte hard drive, 16Mb of RAM, 14-inch monitor, keyboard, still under warranty, superb multimedia set-up with CD-ROM – £3,000. Tel: 01703 559946.

■ Mac Classic 2/40 with accounting stock control and PAYE software, including manuals – £350. StyleWriter 1 – £110. ImageWriter II – £145. Tel: 01475 520912.

■ Mac LC 4/40, with typing tutor, no monitor – £350. Contact Sarah on 0171 738 3620.

■ Mac LC 10/105, 12-inch monitor, displays thousands of colours, mouse, keyboard and System 7 – £600. Tel: 01480 301759.

■ Colour Classic, 4/80, Apple Power CD, StyleWriter II, *ClarisWorks 2*, just over one year old, excellent condition, keyboard and mouse included – £750 ono. Contact Rob on 0181 5004773.

■ Linotronic 300, Dataplex, processor, Cora laser printer, 3 APL keyboards, SSU, AGFA Repromaster camera, will split. Phone for details. Contact Paul on 01684 857375 or 01456 260506.

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USER GROUPS

Need hands-on help with a Mac problem? Want to swap shareware or freeware, or just meet other Mac enthusiasts? Try a user group near you...

■ Artists Bulletin Board now on-line 0181 778 6547. We specialise in obscure software and magazines. It's free. Modem speeds 2400-9600, 24 hrs. (MF24)

■ Blackburn Mac UG. Tel: Roger Moreton on 01254 670043. (MF26)

■ Calling all Mac user groups, programmers and Mac users. MacShare UK is now in the planning stages to start the UK's first support group for Mac user groups and shareware programmers. But we need your input. If you can think of any services your user group could need or would like help with setting up, or if you're a programmer who's having problems with distribution etc, then write to: MacShare UK, Lane End, Oak Tree Lane, Tavistock, Devon PL19 9DA.(MF26)

■ Glasgow Mac UG. Tel: Stephen Broadfoot on 041 339 6646. (MF23)

■ Liverpool Apple UG. Bulletin Board: 051 949 0307. (MF24)

■ Mac user group (nationwide). All levels. Non-commercial. Newsletter, shareware, etc. Send large SAE for sample newsletter to Ref MF, 9 Burrill Drive, Wiggington, York YO3 3ST. (MF23)

■ Mac user group, covers all aspects of Mac scene, free membership and monthly newsletter. For details write to Sonic, 11 Charnock House, Lancaster Court, Chorley, Lancs, PR7 1PB. Or by e-mail on Cosmos BBS 'Dave Andrews' (I'm the programming Forum Moderator) or on Portland BBS 'Dave L Andrews', or on the Internet: **sonic@cosmos-uk.org** Don't forget you pay nothing! (MF25)

■ MacBel UG vzw: Belgium's ONLY non-profit Mac user group. We provide bi-monthly magazines, internet-access, local BBS-support (TeleFinder 32-3-4543-069) and meetings. Call Bart at 32-3-640-4031 or e-Mail **liemb@innet.be** (MF26).

■ MidApple – Apple 2 and Mac user group meets monthly in West Midlands. Please send SAE to MidApple, 24 High Street, Wall Heath, Kingswinford, DY6 0HB for details.(MF 23)

■ New Mac user group just starting up. We urgently need Mac-related literature, shareware, PD and new members. Free membership to MACFORMAT readers. Can you donate a BBS program so we can go on-line? Members asked for small monthly contribution to cover cost of BBS lines and newsletters (we're non-profit-making). Interested? Write to The Network, 11 Charnock House, Lancaster Court, Chorley, Lancs PR7 1PB. Or tel/fax Dave on 01257 265025 (BBS numbers will be posted to all applicants once software is obtained). (MF24)

■ North West Macintosh and Apple user group – Cheshire area, North. Contact Mr George Evans on 01270 583714. (MF26)

■ Nottingham Computer Club. Please send a SAE to Sherwood Community Centre, Mansfield Road, Nottingham.

■ Poole Mac user group. Tel: Bob Lister on 01202 684441.(MF26)

■ SE Essex Mac user group. Contact Michael Foy on 01702 468062.(MF26)

■ Southern Mac user group, Salisbury and district. Contact Roger Ford on 01722 780102. (MF26)

■ Southwest Mac user group, Bristol. Tel: John Elver on 01272 693119. (MF26)

■ Sussex user group, Hastings, East Sussex. Contact Garry Nevin on 01424 714110. (MF26)

■ Telematic & Multimedia user group. We are currently looking for new members, please contact Benjamin Stanley on 0121 420 1482. (MF24)

■ The Computer Textile Design Group. The essential link between computer and textile designer. Contact Dee Chester, 12 Le Brun Road, Eastbourne BN21 2HZ. Tel: 01323 725781.(MF24)

■ The Finnish Mac user group (fiMUG) runs AppleGarden, a FirstClass BBS, at tel. +358 0 694 Membership FIM150 pa. Ca.800 members (Sep/94). Send a SAE to fiMUG, PL 122, FIN-00181 Helsinki, Finland for more information (MF26)

■ Sheffield Mac user group starting, seeks help, advice, shareware, etc. Send SAE to Ian Perrin, 35 Dunkeld Road, Sheffield, S11 9HN. (MF28)

■ Performance user group/ newsletter for home users. Non-commercial. Send large SAE for details. REF: MF, 36 Oakfield Close, Laurel Fields, Potters Bar, EN6 2BE.

Your group will be listed here for six issues, then deleted in order to help weed out defunct groups. The number at the end of the entry is the last issue in which it will be included. If you want your group's entry renewed, just send in the coupon on page 128. If you run a group that isn't listed here, please send us your details!

Please note: this list is provided as a free service for amateur, non-profit-making Mac user groups. MACFORMAT does not endorse or recommend any group and cannot be held responsible for any problems you might suffer as a result of contacting groups advertised here.

■ Apple 12-inch RGB (colour) monitor – £50. Contact Mark or Pauline on (Winchester) 01962 852076.

■ Performa 450 (LCIII) 4/120, 14-inch Performa Plus monitor, keyboard, mouse, boxed with manuals and one month's warranty, Plus *ClarisWorks*, all for £600. Tel: (Colchester) 01206 791494.

■ LC475 12/80, FPU software installed – £700 ono. Contact Tracey on 0181 882 0299.

■ Classic II 6/40, *ClarisWorks* and other software, home use only, including keyboard, mouse and microphone – £485. Tel: 01273 559325.

■ LCII 10/160, 14 months old, VRAM (512), CD-ROM, 2 x speed, 14-inch monitor, excellent condition, System 7, offers around £850. Contact Jon on 01203 525377(answer machine 9-5pm).

■ Classic 2/40 for sale, good condition, mouse and keyboard, home use only – £324. Tel: 01453 546757 or e-mail **100420.3035@compuserve.com**

■ LC 4/40, System unit 512K VRAM upgrade, microphone, System 7.1, as new, lots of software, perfect condition – £200. Contact Terry on 0113 2525038.

■ StyleWriter plus fresh cartridge – £60. Scanman 32 – £80. *Flight Simulator* – £14. *ClarisWorks 2.1* – £50. All including disks manuals, boxes and p&p. Contact Mike on (York) 01347 810685.

■ LC 4/40, colour monitor, keyboard, mouse, StyleWriter, manuals, as new, offers? Tel: 0181 567 6280.

■ Mac Classic 4/40, System 7.0.1, keyboard, mouse, *ClarisWorks 2*, *Superpaint 2.0*, manuals, excellent condition, boxed 18 months old – £350. Tel: 01322 330598 (after 5pm).

■ Classic II 4/40, System 7, disks, manuals, covers, excellent condition, home use only – £325. Contact Tony Collins on 0113 357819 (daytime only).

■ Mac Centris 610 8/80, Apple 14-inch Trinitron monitor, extended keyboard, *Microsoft ThinkWorks*, magazine subscriptions, software and many accessories – £1,250. Contact Stephen on 01505 336738 (Glasgow).

■ Roland Plotter, A3, 8-pen colour DXY1300 + 78 pens, Electrostatic hold – £500. Contact Jonathon on (Reading) 01734 269098 or by e-mail at: **shuhmdjo@reading.ac.uk**

■ Mac LC 10/40, colour monitor, keyboard, mouse, System 7.1, plus extras, good condition – £600. Tel: 01793 613767 (Wiltshire or Avon).

■ Apple Mac SE 1/20 with 17-inch megascreen, all boxes, manuals and leads, perfect condition, light home use only – £425 ovno. Tel: 0181 858 4675.

■ Radius 20-inch Trinitron colour monitor, runs off Quadra internal video, great for DTP, CAD etc – £600 ono. Contact Tim on 01225 447083.

■ LaserWriter II NT, just serviced, new cartridge – £300. Logitech scanman 400dpi, hand scanner and software – £60. 120 Quantum internal drive – £95. All excellent condition. Tel: 01600 712998.

■ PowerBook Duo 280, 12Mb memory, 200Mb hard drive, with charger and cables, System 7, perfect condition – £1,300. Contact Jeff on 01850 440829 (anytime).

■ Siemens 800dpi monochrome desktop scanner with SCSI cable – £270. Micronet Nuport SCSI-2 Nubus accelerator board – £180 (with cable). Tel: 01831 486008 (9am-5pm).

■ LCII 10/40, Apple 12-inch Trinitron Colour monitor, keyboard, mouse, manuals, System 7.1 – £600. Tel: (Cambridgeshire) 01954 718879.

■ Classic II 10/40, excellent condition, boxed with manuals, plus swivel stand, dust cover, books, System 7.1 – £450. Tel: (Poole) 01202 748981.

■ Mac SE/30 8/50, System 7.1, manuals, very good condition, plus HP520, DeskWriter inkjet printer less than six months old. £700 ovno, may split. Contact Michael on 01670 820437.

■ Mac SE, 2Mb of RAM, 20Mb hard drive, keyboard, System 6.0 – £150. Tel: (Northampton) 01604 407871.

■ Mac Plus 2.5Mb of RAM, keyboard, mouse – £115. 3.5-inch, Mac 800K external drive – £30. Mac Plus keyboard – £10. 12-inch green Kaga monitor – £10. Contact Austin on (Suffolk) 01284 735534.

■ Mac SE30, 5Mb of RAM, 40Mb hard drive, home use only – £380. Tel: 01582 611348.

■ Mac SE 4/40, keyboard, mouse, manuals, carry case – £350. Contact Roberto on 01473 620069 (evenings).

■ HP DeskWriter 310c, boxed, with colour kit and sheet feeder, six months old – £250 or will swap for graphics tablet/ new StyleWriter II/ PowerBook. Contact Mark on 0181 677 9792.

■ ImageWriter LQ with black and white and colour ribbons, boxed with manual, home use only – £100 ono. Contact Philip on 01900 85683.

■ Mac SE 4/40, mouse, keyboard, System 7.0 – £350 ono. Contact Sean on 01252 878779 (after 5.30pm).

■ Fujitsu greyscale scanner with software and leads – £250. Apple monochrome 12-inch monitor – £50. Tel: 0181 868 9095.

■ SIMMs, 2 x 4Mb, 30-pin, 70ns, six months old, under warranty, suitable for most older Macs – £160 for the pair. Contact Karl on 0171 284 0278.

■ Mac LC 10/40, home use only, keyboard, 12-inch colour monitor, *ClarisWorks 2.1* – £350 ono. Tel: 0181 771 7571 (evenings).

■ LC III 4/80, one year old, selling to upgrade, genuine offers, loads of shareware available from all MACFORMAT and other magazines. Contact Ian on 0121 554 6297.

SOFTWARE FOR SALE

■ *MacDrawPro, PowerPoint 2.0, DiskLock, StuffIt Deluxe, Symantec Anti-virus, Word 4.0,* all still shrink wrapped – offers? Contact Peter on 01628 418818.

■ *Monkey Island II* for sale – £20 including postage, bought in October, excellent condition! Contact Mike on 01737 249545.

■ Hard disk backup and protection/ recovery: *FastBack, StuffIt Deluxe, MacTools Deluxe,* and *DiskLock,* all originals, unregistered and complete with manuals. Tel: 0181 545 0627.

■ Think C V6, powerful compiler with 00 Extensions. Includes manuals: *Macintosh Toolbox Essentials, Primer Programming Secrets.* Develop genuine applications. Bargain at £100. Tel: 0527 61823.

■ *PageMaker V5*, original manuals and disks, as new – £225. Tel: 01684 568243.

■ Insignia *SoftWindows* for 040 Macs, unopened, still shrink wrapped, I won it at Apple Expo! only £200. Contact Paul on 0181 597 1850.

■ *PageMaker V5*, plus *PageMaker Made Easy* (audio cassette/ floppy disk) – £175. Contact Ian on 0131 664 4462.

■ *Microsoft Word 6.0*, new, boxed, all manuals and disks, perfect condition – £170 including carriage. Contact Richard on 01206 576842 (evenings only).

■ *RAM Doubler V1.5.1* – £34. *PlainTalk V1.3* – £24. *SimEarth* – £9. *Journeyman, Iron Helix* – swap for *Jump Raven, Lunicus.* All new, prices include postage. Contact Damon on 0121 711 1766.

■ *HomePublisher 2.0* – £40 ono, boxed with manuals. Contact Robin on 01858 555373.

■ *Myst* CD-ROM with manual, brand new – £25. Tel: 01482 815625.

■ Original software: *Square One* – £15; *SuperPaint V3* – £30; *Flight Simulator* – £20; *MacMoney* – £30; *MicroSoft Works V.3* – £40; *PixelPaint V2* – £20; *Microsoft Mail* – £20. Tel: 01484 510753.

■ *PageMaker 5 Pro* with CD-ROM library free, boxed as new, never used, offers? Contact Gareth on 0181 441 2780.

■ *ClarisWorks 1.0* – £20 and 2.1 – £35; also *SimCity 2000* – £15; and *After Dark 2.0* – £12. Original copies and complete manuals. Contact Ian on 0121 554 6297.

■ *GreatWorks*, original disks and manual – £30. *ClarisWorks 2*, original disks and manuals – £40. Brighton 01273 559325.

■ *Microsoft Project V3.0* (latest version), unused, original box complete with manuals – £300. *RAM Doubler* – £35. Contact Richard on 01244 319271.

■ *Marathon* – £26. *Wolfenstein II* – £19. *Sensory Overload* – £31. *SimEarth* – £9. *RAM Doubler V.1.5.1* – £34. *PlainTalk V.1.3* – £24. *ATM* – £19. All excellent condition. Contact Damon on 01252 721783.

■ *PageMaker 5.0* with manuals – £300 ono. Registered. Contact David on (Leeds) 0113 2780691.

■ *ClarisWorks 1.0* sealed and unregistered – £40 (upgrade to new version 3.0 – £49), or swap for *RAM Doubler* or anything Mac related. Tel: 01704 550221.

■ *Star Trek: The Next Generation Interactive Technical Manual* CD-ROM, unregistered, unwanted Christmas gift – £25 plus p&p. Tel: 01582 601004.

■ *Creative Writer*, brand new – £20. *Aldus Superpaint 3.0* – £20. Tel: 01908 664119 (Milton Keynes) evenings.
■ *Aldus Pagemaker 5*, unregistered – £150. *Underware* – £10. *Write Now V3.0* – £10. Tel: 0181 998 8332 (evenings).
■ 3D Design program: *Infini-D 2.6*, brand new – £380 ono for quick sale. Contact Kato on 01956 367 317 (any time).
■ *Stacker* – £25, unregistered, boxed and unused. Bundled with machine but not needed. Contact 01823 337870.
■ *MS Office 3.0* with 4.2 upgrade – £300 ono. *PageMaker V5.0A* – £250 ono. *PGA Golf* – £10. *Stellar 7* – £10. *Wizadry-Bane* – £10. Contact Scott on 01253 827387.
■ System 7.5, boxed – £40. *WordPerfect 3.1* (US version), brand new and is System 7.5 savvy – £100. Contact Quidde on 0171 371 3811 (evenings).
■ *Rebel Assault*, CD-ROM in box – £25 or will swap for *Marathon* or *Darkseed*. Tel: 0181 398 2809.
■ *Monkey Island 2*, *M4 Sherman Tank Sim* – £15 each. *Lost Treasures of Infocom*, *Another World* and *Railroad Tycoon* – £9 each. Will swap. Contact Robert on 01273 820571.
■ *UnderWare* (unopened) – £20, *FA18 Flight Simulator*, (unopened) – £20, *ClarisWorks 1.0* – £25-£35. 2.1 – £45. MACFORMAT 20 (CD unopened) – £4. Contact Ted on 01223 565228 (evenings).
■ All unused and unregistered *MS Works* V4.0 – £50. *Claris Organiser* – £25. *Turbo CAD* – £35. Looking for *MS Cinemania*. Tel: 0171 229 7633.
■ *ClarisWorks 2* – £65. *MacTools 3* – £35. *UnderWare* – £15 (unregistered), buy any two get *UnderWare* free, or all four for £150. Tel: 01223 332 500 or 01223 68058.
■ *Redshift Astronomy* – £30. *Myst* – £20. *Disney Screensaver* – £15. *Journeyman Project* – £10. All as new. Contact Rod on 01407 720202 or 720830.
■ *MacTools V.3* – £25. *In Control* (upgrade) V2 to V3 + 3.0.7 – £25. *UnderWare* – £15. *FWB Hard Disk Toolkit DE.V.1.6.* – £25 *Spot On 2.3.1* – £20. *Transoft SCSI Director 3.0.8* – £10. Chris on 0117 9738777 (evenings).
■ *PageMaker V5* – £225. *WriteNow V3* – £15. System 7.1 disks – £18. Ofoto disks only £10. Local Talk kit with phone net – £8. Apple microphone – £6. Tel: 01689 857375 or 01956 260506.
■ *Compton's Interactive Encyclopedia CD* – £30. *Claris CAD* with video and manuals – £30. Tel: 0181 979 0262 (evenings) or 0171 315 6228 (days).

WANTED

■ Apple CD300 (internal preferred), SIMMs for Colour Classic (2 x 2Mb, 30-pin) and Centris 610 (8Mb, 72-pin) also *Fontographer*. Tel: 0171 229 7633.
■ LCIII or Performa with printer, needed urgently for kids' homework. Tel: (Tyneside) 0191488 9503 (any time).
■ MACFORMAT back issues with or without disk/CD. Good prices paid. Tel: (Norwich) 01603 451839.
■ Mac Symantec C++ V6.1. or 7.0 inc. TCL and all documents, any other version considered, preferably Midlands area. Contact Stuart on 0121 444 5660 (day or evening).
■ Wanted PowerBook 100 in good condition. Call Tim on 01585 620819 if you want to give it a good home.
■ *Flight Sim* scenery upgrades three and four wanted urgently. Tel: 0151 928 2234.
■ Wanted, Think C application or Learn C on Macintosh (book/disk) package, Chinese Board game *Go-Junior/Go-Master* at reasonable price. Contact Patrick on 012656 65316.
■ SIMMs memory, 4Mb or 8Mb, 72-pins required to upgrade my LC475. Cash waiting. Tel: 0181 548 1210.
■ Apple StyleWriter II or ImageWriter II printer required. Must be in good working condition. Tel: 0181 548 1210.
■ GCC WideWriter printer wanted. Contact Frank Hetherton (Brussels). Tel: 00 32 2 343 82 22 or c/o 0171 371 3000.
■ I am looking to buy early issues of MACFORMAT with disks. Please contact James on 0181 876 8443 (evenings) if you can help.
■ Foreign language fonts especially Polish, Serbo-Croat and Icelandic. Other fonts also needed. Please contact 01223 234621 (evenings), 01223 234035 (daytime) or 01223 235114 (fax).
■ AV Centris or AV Quadra needed for college. Tel: 01202 431021 x 171 or Fax on 01202 417352.
■ Colour scanner and software (flatbed), good used or liquidation stock, cash waiting. Tel: 0121 358 5920 (after 6.30pm).
■ One Colour Classic 4/80, System 7.1, looking urgently. Tel: 0171 229 6404.
■ *ModelShop II* instruction manual, also *Swivel 3D*, professional manual wanted, original copies if possible. Good price paid. Contact Roger on 0171 732 4118.
■ Decent Mac LCII or better (CPU and/or monitor) at a decent price. Call 0171 251 1414 x 224 during office hours (8am-5pm).
■ Duo Dock or Mini Dock. Contact Simon on (Lancaster) 01524 62427 (evenings or answering machine).
■ *CatchWord* or *CatchWord Pro* wanted for Logitech scanman or other OCR for scanner. Tel: 01263 711330 (answer machine). Leave details and return telephone number.
■ LCII or LCIII wanted with or without monitor and keyboard. Please call Wessley on 01734 772759. Low prices only.
■ MACFORMAT CD-ROM cover discs, numbers one and two wanted. Contact Phil on 01753 573554 (after 6pm).
■ *V for Victory* game. Tel: 01530 832039.
■ Quadra 610 or Centris 610 upwards wanted, screen and keyboard also required. Contact Gordon on 0131 221 9200 (day) or 0131 555 6007 (evenings). Can collect.
■ Hand held or cheap flat-bed scanner and software needed to run it. Contact Martin on 01480 301759.
■ PowerBook 180 or 180c, must be 4/120, for poor student around £900 or under please. Contact Paul on (Edinburgh) 0131 666 1229.
■ Apple Classic and SytleWriter II, dad has one at home, student needs one for house and course. Contact Robert on 01902 322399.
■ Applied Engineering Video-X expansion card for Transwarp 4300 accelerator. Will pay almost any price! Tel: (Milton Keynes) 01908 664119.
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■ Catch up on all things Macintosh – *MacUser* '93, *MacWorld* '93 and '94 – over 45 mags. Take the lot for £10. Contact Wilf on 01603 665964 (after 5pm).

Buying advice

Whether you're buying by mail or in person, here are some sensible precautions to bear in mind. Note that everything here applies to buying from a business; most of it does *not* apply to buying from a private seller in MACFORMAT's reader ads pages.

Always be absolutely clear about what is included in the price – postage and packing? Any necessary cables, etc? VAT? (By law, an advert must say *explicitly* if VAT is not included; if it doesn't, VAT *is* included. But this could be in the small print – so make sure that you read it all!) If you're buying in person, check that everything is there and that it all works properly before you leave the shop. If you're buying by mail, ring the supplier first to confirm the price and availability, and ask what your options will be if there should be any problem. Find out when you can realistically expect delivery. Always keep all receipts and make records of all correspondence, whether it's by mail or by phone.

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Designed by Macintosh

The Mac has made more work for designers and forced them to accept less pay, says MACFORMAT reader Jonathan Baldwin.

OVER TO YOU...

The opinions expressed on this page are those of the author, not necessarily those of MACFORMAT or Future Publishing Ltd. If you have something to say, write to 'Soapbox', MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. ASCII text on disk would be nice, but isn't essential. We reserve the right to sub-edit your grammar, but won't alter the sense of any opinions.

The Mac has a lot to answer for. Don't get me wrong – it's great, and without it, I wouldn't be where I am today. But by mercilessly portraying an image of user-friendliness and general cleverness, it has diminished the image of those who use it.

I'm a designer. But I also perform an endless list of other jobs. Like typeset. And make the tea. How much do I get paid? Compared to what I do, not a lot.

In the old days I'd have had one job only. I'd have conceived and presented the ideas, then given them to the back-room boys to paste up and typeset, before sending the final artwork to the client for approval. It was called division of labour, a system that enables greater productivity and employment by enabling people to specialise until they perfect their skills. And better skills mean better products.

Nowadays jobs are advertised as 'Mac Operators', when they really want designers. And they pay top-notch designers lowly computer operators' rates.

You see, what the Mac has done, in liberating designers, is actually to devalue them in other people's eyes. When a designer created masterpieces by hand, everyone was suitably impressed and handed over large amounts of dosh. Now, when a designer creates designs on his Mac, people say, 'I could do that'.

The chairman of my company showed me a logo the other day and asked if my Mac could reproduce it. 'I'm afraid not,' I said. 'Oh, I thought you just had to press a button. Can't your Mac do it?' he said. 'No, the Mac can't,' I replied, 'but I could – but it would take me about a week, what with my other commitments.' 'Oh,' he said, 'that's useless. I thought this machine was supposed to be good.'

People seem to think the Mac does all the work, not the operator. Why weren't drawing boards held in such high esteem? Why do people visit galleries to marvel at da Vinci's artistry when they should instead be praising his brushes?

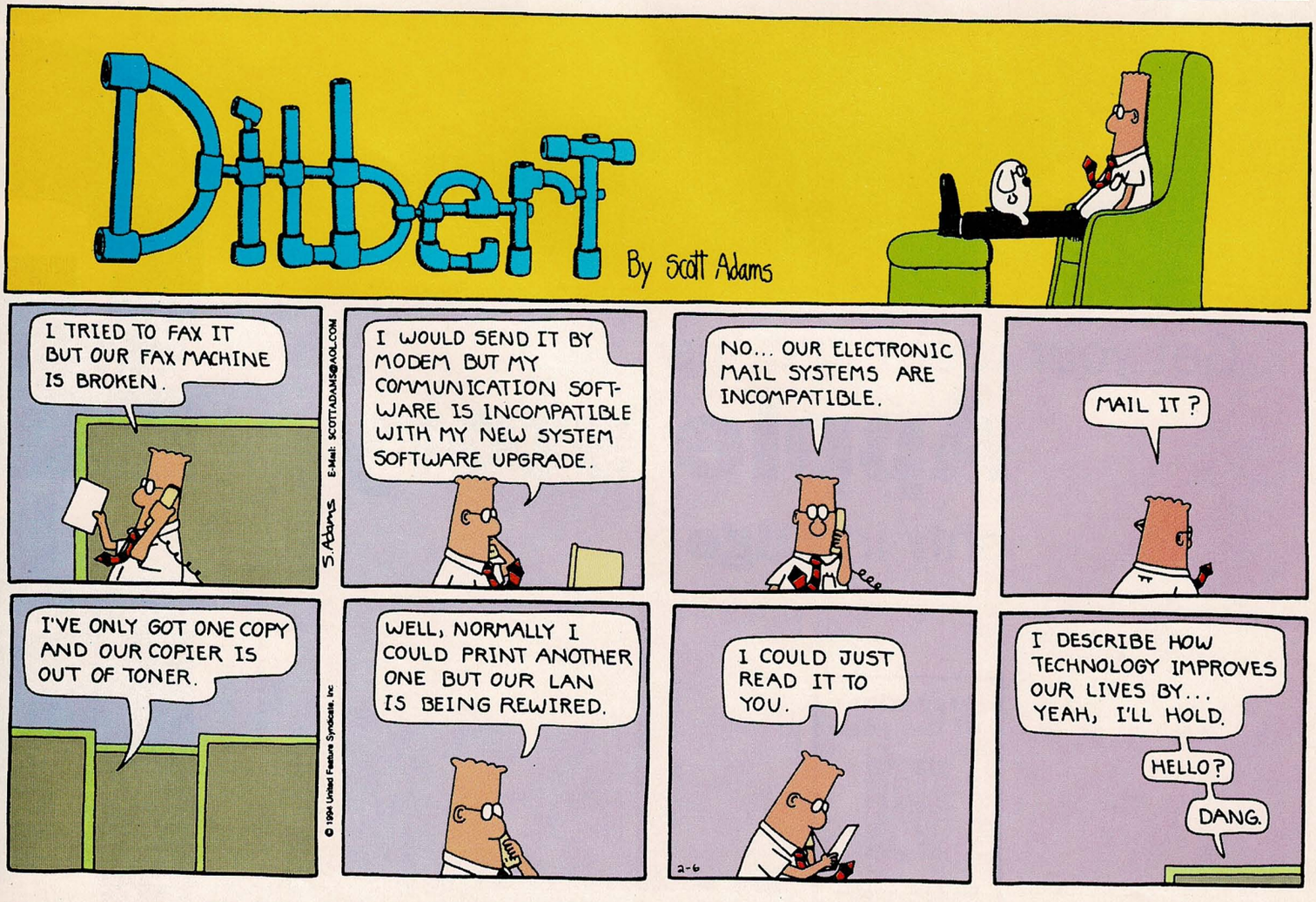
Why do companies ask *anybody* these days to play at being a designer using cheap DTP packages when they would never dream of asking, say, the cleaners to do the accounts?

And why do companies investing in in-house design facilities expect designers to perform a hundred other functions too? I like responsibility and hard work. But by spreading ourselves so thinly, we actually get less done and produce poorer results.

It's about time the role of the designer was reassessed in the light of the revolutions in the industry. Macs are, after all, just digital drawing boards, and it is the skill of the designer, not the wonder of the equipment, that should be applauded. Yes, the Mac has a lot to answer for.

Jonathan Baldwin
Ripon, North Yorkshire

■ This letter has been slightly shortened for reasons of space.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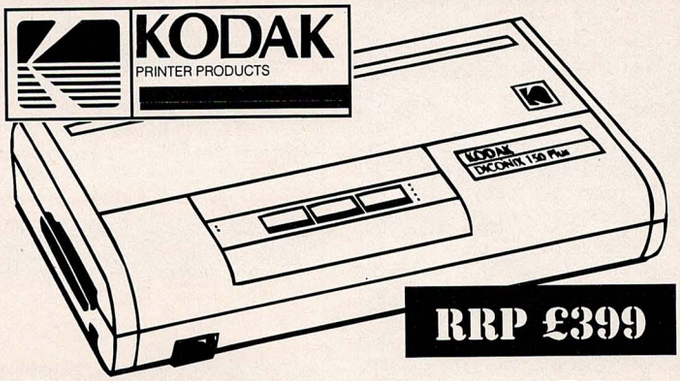

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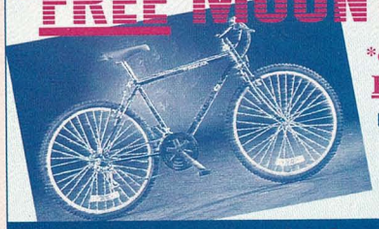

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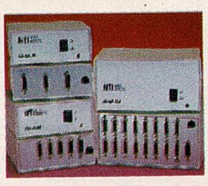

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It's still the Tiny Zone!

Hello and welcome again to the Tiny Zone, the section of MACFORMAT that is still full of the very finest print, if we do say so ourselves. Nice to know, isn't it, that in a sea of change, some things endure. Last month, as you'll recall, we were just talking about changes, with Stuart the Publisher (we still miss him around here, you know) giving place to Jim the New Publisher, and now this month MACFORMAT gives itself a bit of a facelift. It's all just to keep you guessing, you know – we're even going to be moving offices again (*again!*) to be closer to Jim's office so he can pop out every now and then to say how much he likes the new design... Not that it's completely new, you were going to say, just a bit of a nip and tuck. Best of the old, give Tiny Zone a (little) bit of room to breathe – that sort of thing. Let us know what you think! Unless I miss my guess, dear reader, you aren't frightened of change – after all, you could hardly separate progress and development from computing, now could you? Where would we be now if Apple hadn't had the courage to break the mould all those years ago and try out unheard-of innovations like windows and menus? For that matter, where would Apple be now if it had rested on its laurels after that and never pushed on to develop the PowerMac? The runaway success of the brilliant new machines has not only given us powerful RISC-based computing at increasingly affordable prices (as we report in this issue's News), but it has also resulted in Apple's best sales figures and biggest market share ever, probably. That's good news for all of us, not just corporate business watchers: the more Macs there are out there, the more software will be released for our favourite machine. Might make a nice change from Microsoft, at any rate...

Next month

What DTP package?

QuarkXPress, PageMaker, HomePublisher and ... er... the other ones – which DTP package is best? We test them all head-to-head next month

Or just ClarisWorks

We show you step-by-step just how much you can achieve using *ClarisWorks* for page makeup

Sex! (Etc.)

Multimedia isn't just for kids any more, with *The Joy of Sex, National Lampoon's Blind Date* and the rude bits of American history on CD-ROM...

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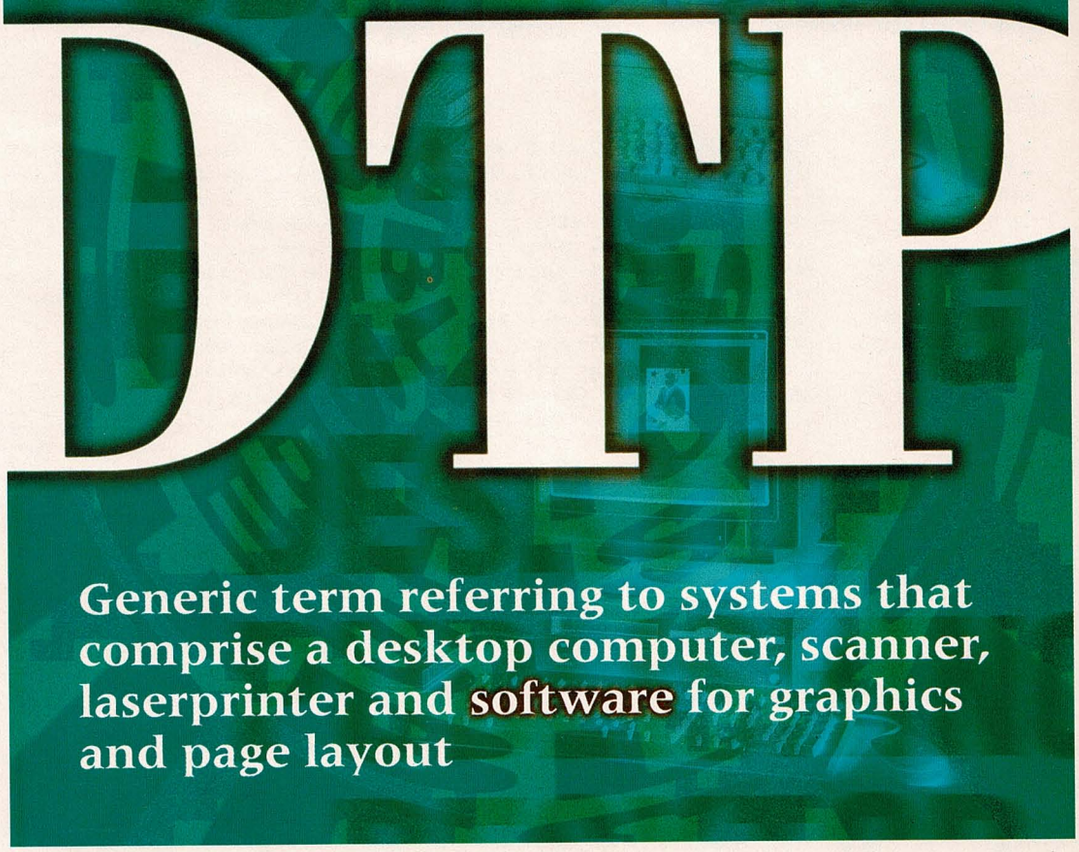
DTP
Generic term referring to systems that comprise a desktop computer, scanner, laserprinter and software for graphics and page layout

ARE YOU A WINNER?

In MACFORMAT 19 we gave you the chance to win one of five copies of the MACFORMAT Classic-Award-winning *Now Utilities 5.0*, courtesy of Now Software. The lucky winners are: Bob Crossley of St Austell in Cornwall, Peter Reid of Aberdeen, Jo Hetland from Hamar in Norway, Colin Campbell of Belfast and Miss R Sayid of Slough in Berks. Congratulations to all!

Back in issue 18 we had a copy of *Question Mark*, the question-setting software, to be won, courtesy of Question Mark Computing. The winner is Armand v Sprakelaar from Utrecht in the Netherlands. Hope it works in Dutch...

And Richard has just reminded me that we haven't yet announced the 20 winners of Mat Label mouse mats from MACFORMAT 16. So...

J K French, Droitwich; M Hodson of London SE20; W Burton of Penicuik, Midlothian; Ms S Ghallab of London SW7; Iain M Andrews of Dalry, Ayrshire; Mick Hart from Hitchin, Herts.; Paul Milne of Waterlooville, Hants.; Jeongkee Kwon of Cambridge; Angela Peel-White of Bournemouth; Jim Smellie of Glasgow; Carol Dowsett of Bournemouth; Guido Cautreels of Wilryk, Belgium; Peter Brown of Peterborough; Mr G Pennington from Bolton, Lancs.; Tom Connor from Glasgow; Miriam Berg of London N3; Andrew Westoby of Woodford Green in Essex; Mr W M Blackett of Ivybridge in Devon; Mr C Raymond of Tolworth, Surrey; and Andy Naughton of London W11.

So that's three competitions sorted in one issue and... um... 26 lucky MACFORMAT winners! Must be some sort of record, I reckon...

MACFORMAT 24 goes on sale on Thursday 6 April

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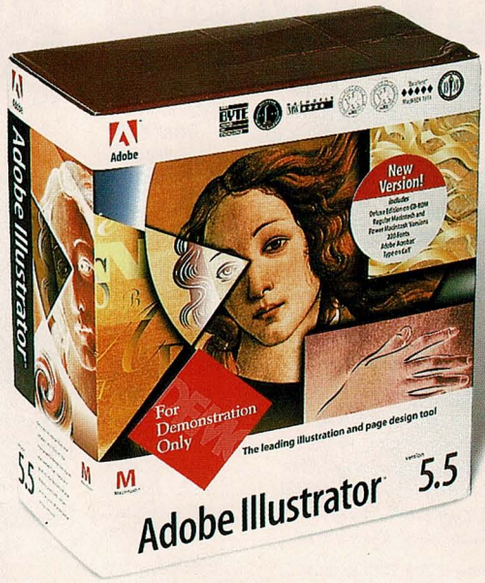
Win a copy of Illustrator 5.5

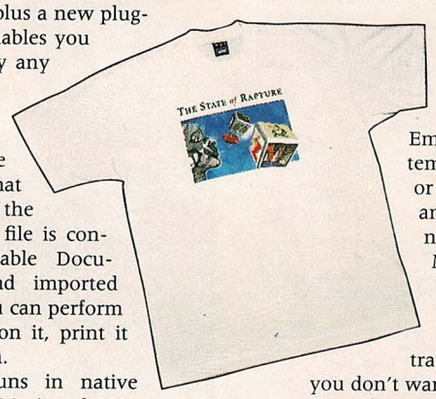


We have three copies of the industry-standard high-end illustration program, each worth £546, to be won courtesy of Adobe. Plus 100 T-shirts for runners-up.

Mention illustration and design on the Mac and the program name that's likely to spring to mind is *Adobe Illustrator*. In addition to giving you just about every illustration function you could ever hope for, the latest upgrade, version 5.5, makes the most of the program's plug-in architecture with a range of filters, including new 'Pathfinder' filters, that save you time and make it even easier to create special effects.

And what's more, version 5.5 adds the features that users of previous versions have asked for, such as trapping, tabs and a range of new text capabilities. There's also a CD-ROM that includes: QuickTime movies of new features and expert tips; 180 of Adobe's PostScript Type 1 fonts; third-party clip art; and much more.

This new release adds support for Adobe Acrobat technology by including Adobe Acrobat Exchange and Adobe Acrobat Distiller, plus a new plug-in filter, which enables you to import virtually any file that has been produced on a computer using Adobe's Portable Document Format (PDF). And, for the first time, once a file is converted into Portable Document Format and imported into *Illustrator*, you can perform touch-up editing on it, print it and export it again.



Version 5.5 runs in native mode on Power Macintosh machines, so you can take advantage of the PowerMac's increased speed and processing power – previewing artwork is between two and four times faster than on other Macs!

All this costs about £564, but we have three copies of *Illustrator 5.5* to be won, courtesy of Adobe Systems, and 100 runners-up will each receive an exclusive *Adobe Illustrator* T-shirt! To enter, answer the three questions below and send your answers on a postcard or on the back of a sealed envelope. Employees of Adobe Systems, Future Publishing or associated companies, and their families, are not eligible to enter. Multiple entries are not allowed, unless they're incorporated into an original illustration. Please state if you don't want your name added to a mailing list. The editor's decision is final, there is no cash alternative, no correspondence will be entered into, and the closing date is Thursday 13 April 1995.

THANKS TO...
Paul Wootton Associates, who created this excellent illustration using *Adobe Illustrator 5.5.*

THE QUESTIONS

1. *Adobe Illustrator* is:
(a) a revolutionary new range of automated painting tools
(b) the market-leading computer design and illustration package
(c) America's answer to Rolf Harris

2. *Adobe Illustrator 5.5* takes advantage of Adobe's PDF. PDF stands for:
(a) Professional Development Features
(b) Printing Distilled Fonts
(c) Portable Document Format

3. *Adobe Illustrator 5.5* enables you to preview artwork between two and four times faster than before because:
(a) version 5.5 runs in native mode on Power Macintoshes
(b) users are working more quickly than ever before
(c) this version includes Adobe Acrobat Exchange and Adobe Acrobat Distiller

Do you need help? Well, check the review on page 64! Then send your entry (don't forget your address and T-shirt size) to: The Big Draw Competition, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

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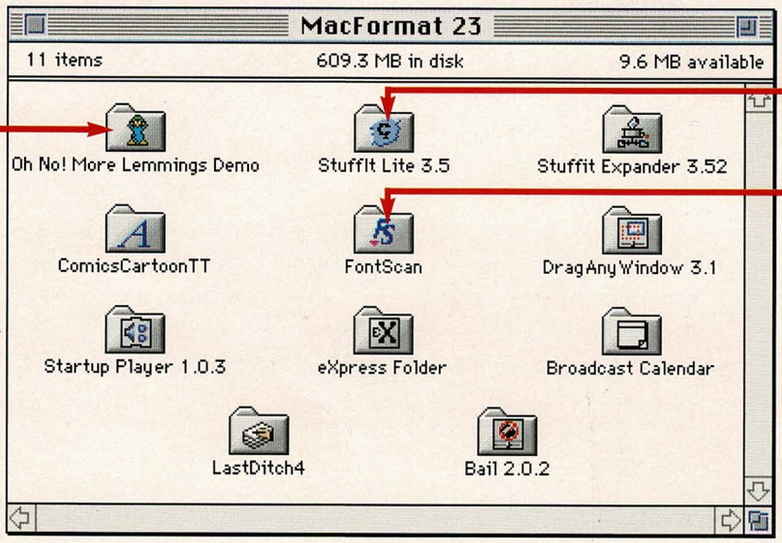
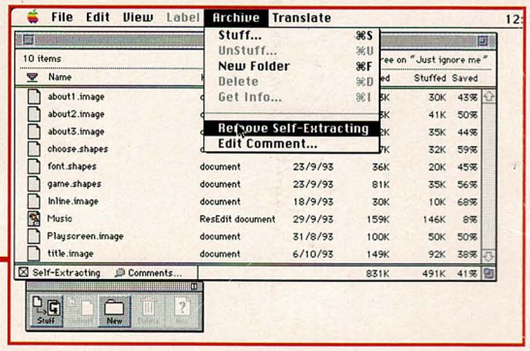
ON THE DISK THIS MONTH...

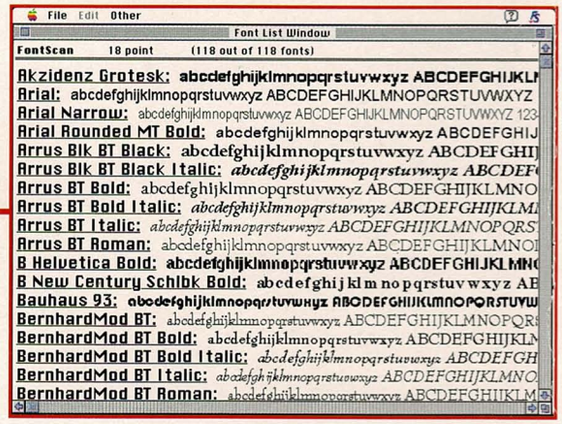
Some spiffing software this month, including a few personal favourites. The very first issue of MACFORMAT carried a demo of the first *Lemmings* game, and this month we bring you the sequel. There are also programs to help you get stuffed (!), and utilities to help improve your Mac.





STUFFIT LITE 3.5

This is the shareware version of the superb file-compression program. It enables you to squash files to half their original size on average. In fact, it's so good that we use it to create our cover disks. Requires: any Mac with System 6.0.4 or later.


File Edit Other
Font List Window
FontScan 18 point (118 out of 118 fonts)
Akzidenz Grotesk: abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKL
Arial: abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ
Arial Narrow: abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ 123
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BernhardMod BT Italic: abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNO
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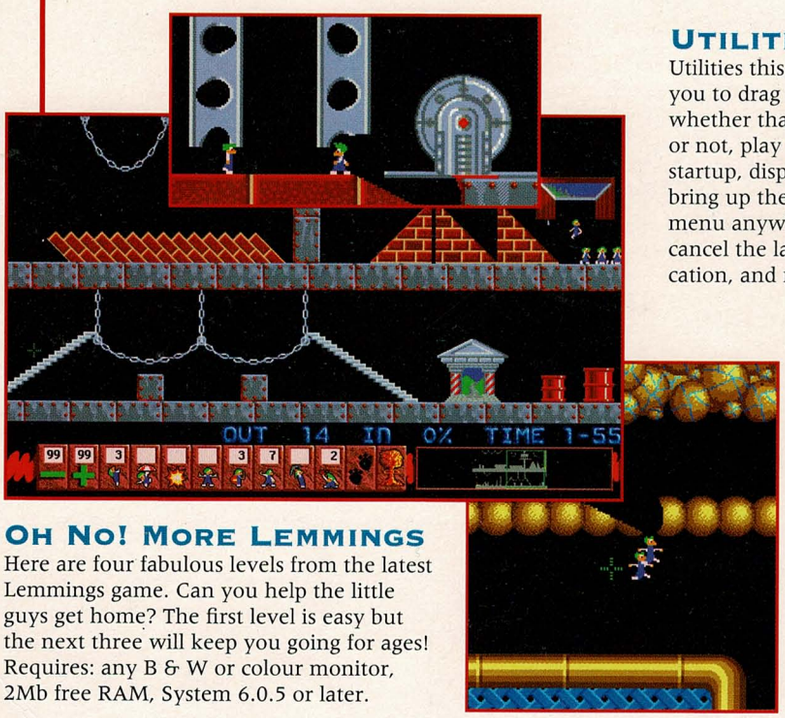
FONTSCAN

This handy utility automates the process of creating and printing a list of all your fonts. No more scratching your head and wondering what they look like! Requires: any Mac, System 7 or later.

UTILITIES

Utilities this month enable you to drag windows whether thay have a title bar or not, play a tune during startup, display a calendar, bring up the Applications menu anywhere on screen, cancel the launch of an application, and read any text.



OH NO! MORE LEMMINGS

Here are four fabulous levels from the latest Lemmings game. Can you help the little guys get home? The first level is easy but the next three will keep you going for ages! Requires: any B & W or colour monitor, 2Mb free RAM, System 6.0.5 or later.

COMICSCARTOON

TO GO WITH OUR GUIDE ON CREATING YOUR OWN CARTOONS INSIDE THE MAGAZINE, HERE'S AN EXCELLENT COMICSCARTOON FONT TO GIVE YOUR CREATIONS THAT REAL-COMIC LOOK.